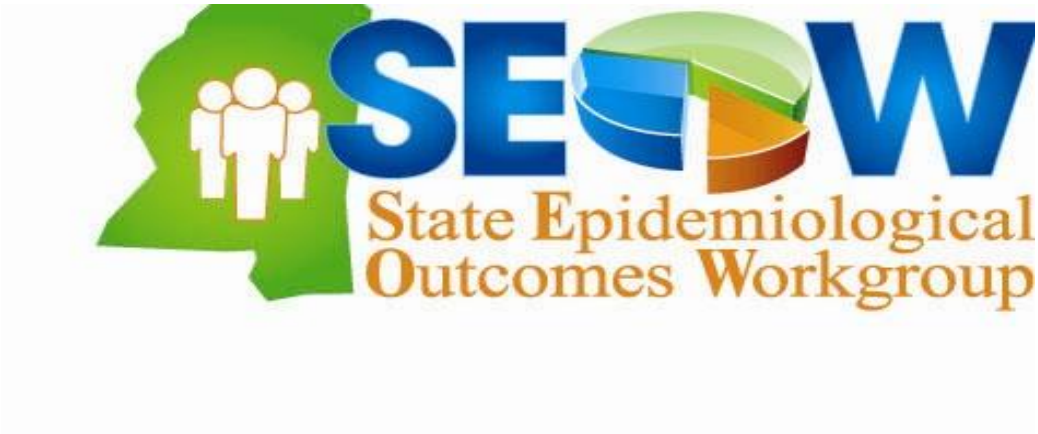


# Epidemiological Profile on Alcohol Consumption and Adverse Consequences in Mississippi

**October 2010**

Supporting a Better Tomorrow...Today
DMH
Mississippi Department of Mental Health

# *State Epidemiological Outcomes Workgroup (SEOW)*

# PREFACE

We are pleased to present the October 2010 edition of the *Epidemiological Profile on Alcohol Consumption and Consequences in Mississippi*. The new edition includes county level and national level data sources as well as a new conceptual framework (or model) which has helped to classify the subcategories included under the general headings of Consumption and Consequences. The model provides an explicit public health perspective on the data; for instance, in terms of emphasizing differences between occasional and both binge-drinking and heavy drinking, and distinguishing between different Consequences of alcohol consumption in terms of Behavioral Outcomes (e.g., drinking and driving), Morbidity (i.e., illness and injury), Mortality (alcohol-related deaths) and Costs. The conceptual framework has helped to identify important gaps in the data and we have included these data, where possible, in the current edition of the Profile.

Data in this document should not be viewed as all inclusive, but as a summary of information from various sources to help guide researchers, program managers, policymakers, and other stakeholders to identify resources for further exploration and in-depth assessment.

We thank the Mississippi Department of Mental Health and the SEOW workgroup members for their input and providing the data necessary for this report.

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October 18, 2010

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# DATA SUMMARY

## Consumption Data

**Alcohol sales:**

- Total Sales of alcohol (liquor and wine only) in fiscal year 2009 … $293 million.[1]

**Student use of alcohol:**

- Alcohol is by far the most commonly used "substance of abuse" by youth in Mississippi (under age 18). The top five substances used, in decreasing order, are alcohol, tobacco, marijuana, inhalants, and cocaine. 72.5% of youth report "ever using" alcohol.[2]
- 14% of 6-11$^{th}$ grade students on average report binge drinking in the past month (i.e., drinking ≥ 5 alcoholic drinks in the space of 2 hours).[3]
- 20% of 10$^{th}$ and 11$^{th}$ graders report binge drinking in the past month (1 in 5).[3]
- Of the binge drinkers, 5.4 % engaged in binge drinking once in the past month, 3% did so on 2 days in the past month, and as many as 1% engaged in binge drinking on ≥ 20 days during the past month.[3]
- Alcohol consumption in general declined among students in Mississippi during the years 2004 to 2009, from 30% to 25%.[3]
- The first use of alcohol (beer, wine coolers and other alcohol) by 6-11$^{th}$ graders typically occurs between ages 11 and 14.[3]
- Mississippi is below the national average in the percentage of students who had at least one alcoholic drink in the past 30 days.[3]

**Adult use:**

- Consumption of alcoholic drinks in the past 30 days by whites during the period 1995 to 2009 was consistently higher than among African Americans; rates for males were higher than those of females.[4]
- National rates of alcohol consumption in general are higher than state rates overall.[2]
- There was a decreasing trend in occasional drinking both nationally and statewide from 1995 to 2001. From 2001-2009, national rates declined while Mississippi rates remained stable.[2]
- During the years 2003, 2004 and 2008, consistently higher rates of alcohol consumption were reported by whites compared to blacks.[2]
- Mississippi adults in general have some of the lowest levels of alcohol consumption in the U.S. (≤ 41.3%).[4]
- Mississippi has one of the lowest percentages in the nation of adults who report either heavy drinking (≤ 3.9%) or binge-drinking (≤ 11.9 %).[4]

## Consequences of Alcohol Consumption

- The percentage of students "drinking and driving in the past 30 days" has declined in recent years, nationally and statewide.[2]
- Admissions to alcoholism treatment facilities have declined in recent years.[5]
- Admissions of males to alcoholism treatment facilities are over twice as high as those for females.[5]
- Alcohol impaired driving fatalities in Mississippi from 2004-2009 were consistently about twice those of the U.S. as a whole.[6]
- Costs related to underage drinking amounted to $551 million in Mississippi in 2007.[7]

*YRBSS data for the State of Mississippi were unavailable for 2005 due to the low response rate. Since Mississippi has few residents of Hispanic origin, no statistics have been cited for this ethnic group.

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1. MS State Tax Commission, Office of Alcohol and Beverage Control.
2. Youth Risk Behavior Surveillance System (YRBSS).
3. MS SmartTrack Survey, 2004-2009.
4. Behavioral Risk Factor Surveillance System (BRFSS).
5. Substance Abuse and Mental Health Services Administration (SAMHSA).
6. MS National Highway Traffic Safety Administration (NHTSA).
7. Pacific Institute for Research and Evaluation (PIRE).

# INTRODUCTION

The Mississippi State Epidemiological Outcomes Workgroup (SEOW) comprises scientists, social service professionals and other stakeholders whose charge is to summarize the available data on patterns of alcohol consumption and their social, economic, and health consequences in the State of Mississippi. The objectives of SEOW are to:

- Document patterns of alcohol use and their adverse consequences (i.e., behavior, morbidity, mortality, and costs of underage drinking), including updating the *Epidemiological Profile.*
- Carry out research to identify risk and protective factors relating to consumption patterns and consequences.
- Develop and test strategies to address and reduce the adverse consequences of alcohol use.
- Evaluate the efficacy and effectiveness of prevention efforts.

This edition of the Epidemiological Profile (October, 2010) contains a number of new features:

- An exclusive focus on alcohol consumption and its consequences.
- A conceptual framework (or model), based on a public health perspective, for classifying data within the overall categories of Consumption and Consequences.
- New national, state and county level data, including the Pregnancy Risk Assessment Monitoring System (PRAMS), National Institute of Drug and Alcohol Abuse (NIDA), Mississippi Department of Transportation (MDOT), the MS Office of Alcohol and Beverage Control, the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and the Substance Abuse and Mental Health Services Administration (SAMHSA).
- A summary of evidence relating to the effectiveness of prevention strategies.

A conceptual framework (or model) has been developed to classify the data on the problem of alcohol under the general headings of Consumption and Consequences (see Fig. below). The Model provides an explicit public health perspective on the data. For instance, it emphasizes the important clinical and management differences between occasional drinking and both binge-drinking and heavy drinking; it also distinguishes between different Consequences of alcohol consumption in terms of Behavioral Outcomes (e.g., drinking and driving), Morbidity (i.e., illness and injury), Mortality (alcohol-related deaths), and Costs. The conceptual framework has also helped to identify important gaps in the data and these have been noted and included, where possible, in the current edition of the Profile.

| Conceptual framework for an epidemiological profile on alcohol consumption and its adverse consequences | |
|---|---|
| **CONSUMPTION** | **CONSEQUENCES** |
| **Alcohol sales** | **Behavior** |
| Total sales | High risk |
| | School related |
| | Criminal behavior |
| | |
| **Student use** | **Morbidity** |
| General use | Non-fatal Injury |
| Problem drinking | Illness |
| | Health services utilization |
| | |
| **Adult use** | **Mortality** |
| General use | Fatal Injury |
| Problem drinking | Illness |
| Alcohol use in pregnancy | |
| | **Costs** |
| | Underage drinking |

Beginning with the general *categories* of Consumption and Consequences, the conceptual framework then progressively specifies the data in terms of scientific *concepts, variables* and measurable *indicators*. Thus, within the category of Consumption we define a number of *concepts*; namely, Alcohol Sales, Student Use of Alcohol, Adult Use, and Alcohol Use in Pregnancy. For each concept, we then define a number of *variables*. Thus, under Student Use we have defined the following two variables: General Drinking and Problem Drinking; and under Adult Use we have defined the following three variables: General Use, Problem Drinking, and Use in Pregnancy. Each variable is then operationalized in terms of measurable *indicators*. For instance, under Alcohol Sales, the indicators are for total sales of liquor and wine.

Data on the adverse Consequences (or outcomes) of Alcohol Consumption are presented in terms of the *concepts* of Behavior, Morbidity (illness), Mortality (death), and Costs. Each concept is then specified in terms of a number of *variables*. For instance, under Behavior we have the following variables: High Risk Behavior, School-Related, and Criminal Behavior. Under the concept of Morbidity, we include variables related to Injury, Illness, and Health Services Utilization; under Mortality, variables related to fatal Injury and Illness; and under Costs, we have included costs related to underage drinking in Mississippi. Costs related to other aspects of alcohol problem are still under investigation. For each of these variables we have provided one or more measurable indicators.

The decision to focus on alcohol is based on the fact that alcohol is by far the most commonly used "substance of abuse" by youth in Mississippi (under age 18), as shown in Figure 1.1, below. The top five substances used, in decreasing order, are alcohol, tobacco, marijuana, inhalants, and

cocaine. Whereas 72.5% of youth report "ever using" alcohol, 46.3%, 36.8%, 11.7% and 6.4% report ever using tobacco, marijuana, inhalants, and cocaine, respectively.

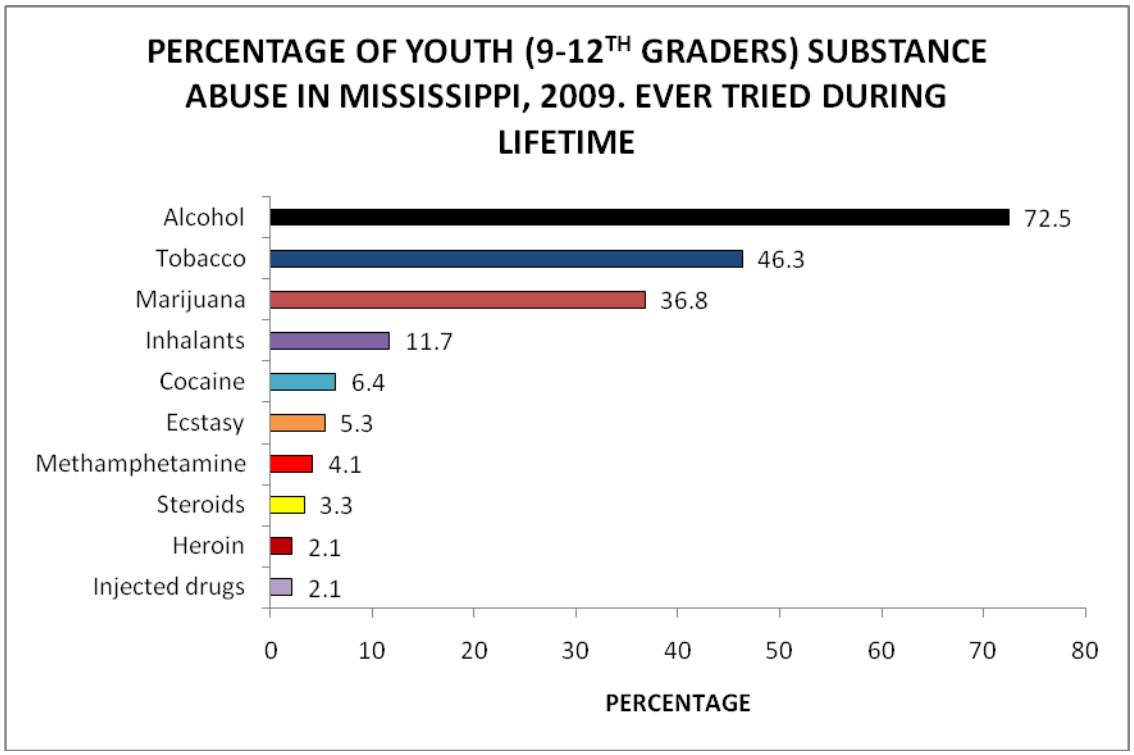
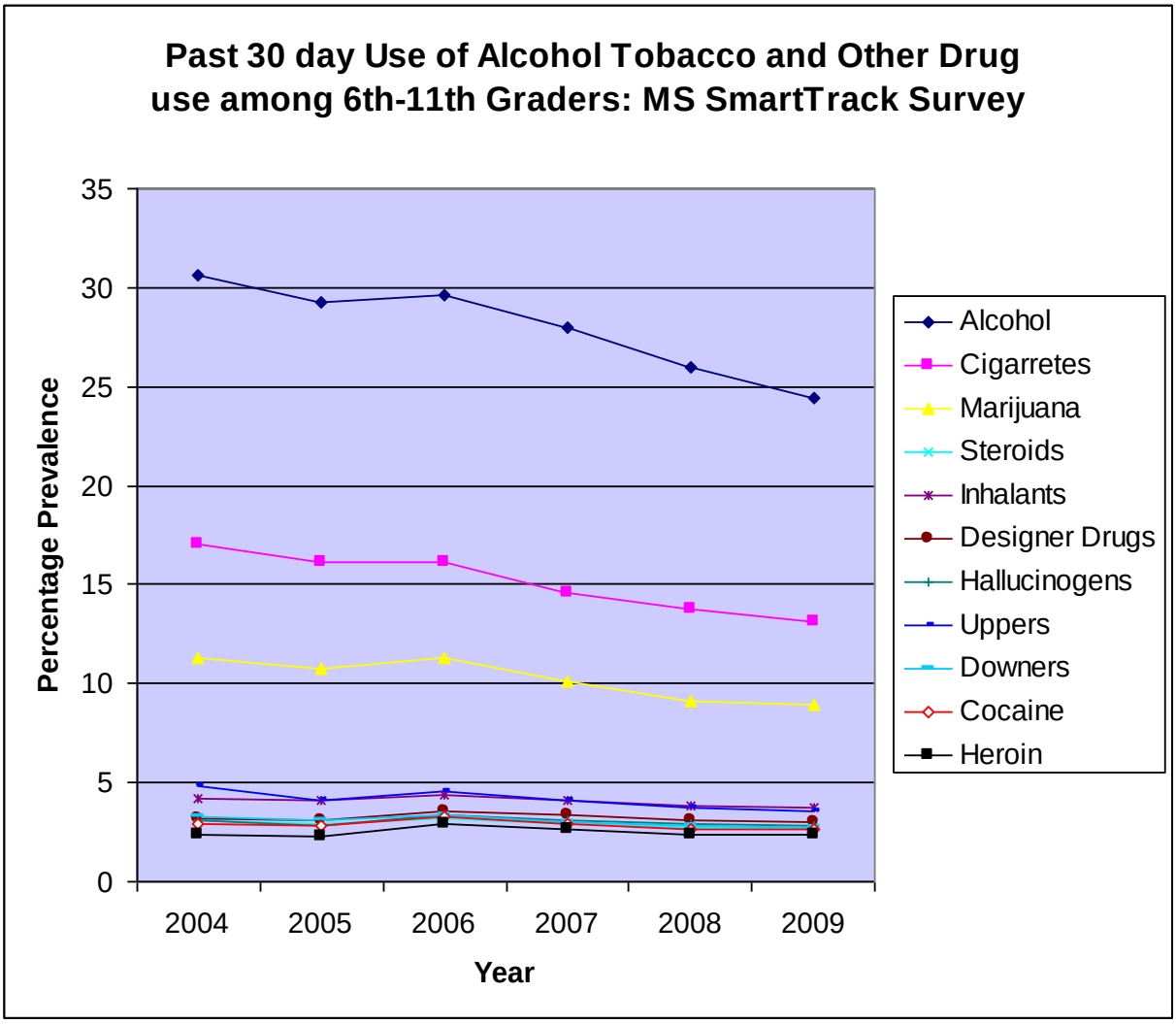



Figure 1.1: Youth (9-12th graders) substance abuse in Mississippi, 2009: Ever tried during lifetime. Source: Youth Risk Behavior Surveillance System, 2009.

Figure 1.2. Past 30 day use of alcohol and other drugs among 6th -11th graders, MS Smart Track Survey, 2004-2009.




To provide a brief "snapshot" of Mississippi in 2007-2008, the population numbered 2,893,300 persons, comprising 62% white, 37% African American, and 3% other races. The age distribution was: < 15 years (22.5 %), 15-64 (65.4 %), and > 65 (12.1 %).

The present 2010 Epidemiological Profile on Alcohol Consumption and Consequences in Mississippi is organized in terms of the categories outlined in the conceptual framework, beginning with data on consumption patterns, followed by data on adverse consequences of alcohol consumption.

# 2. CONSUMPTION DATA

## ALCOHOL SALES

Data on patterns of alcohol consumption are presented below, along with the sources of data. We begin with data on *Alcohol Sales.*

| ALCOHOL SALES | |
|---|---|
| **INDICATOR** | **DATA SOURCE** |
| • Total sales and collections for liquor and wine, by county, year ending June 30, 2009 | MS State Tax Commission, Office of Alcohol and Beverage Control |

The table below shows that total sales and collections of liquor and wine for fiscal year ending June 30, 2009, were $293,229,100. Counties with the highest sales included Hinds, Harrison, Madison, DeSoto, and Jackson. The county with the lowest sales was Rankin.

Table 2.1: Office of Alcohol Beverage Control Schedule of Sales and Collections, by County

**OFFICE OF ALCOHOL BEVERAGE CONTROL**
**SCHEDULE OF SALES AND COLLECTIONS BY COUNTY**
**FISCAL YEAR ENDING JUNE 30, 2009**

| COUNTY | | ACTIVE PERMITS | RETAIL COST | 7% STATE SALES TAX | SALES | STATE EXCISE TAX | ALCOHOL ABUSE TAX | TOTAL SALES & COLLECTIONS |
|---|---|---|---|---|---|---|---|---|
| ADAMS | | 51 | $3,516,456 | $246,155 | $3,295,114 | $145,701 | $75,641 | 3,762,611 |
| AMITE | | 2 | 310,616 | 21,744 | 289,639 | 14,317 | 6,660 | 332,360 |
| BOLIVAR | | 24 | 4,099,173 | 286,944 | 3,830,748 | 180,383 | 88,042 | 4,386,117 |
| CARROLL | | 3 | 565,384 | 39,577 | 524,858 | 28,491 | 12,035 | 604,961 |
| CHICKASAW | | 2 | 823,425 | 57,640 | 760,834 | 45,209 | 17,382 | 881,065 |
| CLAIBORNE | | 5 | 784,464 | 54,913 | 730,733 | 36,957 | 16,774 | 839,377 |
| CLAY | | 9 | 2,156,378 | 150,947 | 2,021,941 | 87,944 | 46,493 | 2,307,325 |
| COAHOMA | | 20 | 3,168,394 | 221,791 | 2,947,180 | 153,775 | 67,439 | 3,390,185 |
| COPIAH | | 11 | 3,896,676 | 272,769 | 3,633,526 | 179,866 | 83,284 | 4,169,445 |
| DESOTO | | 90 | 17,677,227 | 1,237,414 | 16,581,893 | 715,833 | 379,501 | 18,914,641 |
| FORREST | | 71 | 10,620,302 | 741,566 | 9,950,319 | 441,466 | 228,517 | 11,361,868 |
| GRENADA | | 15 | 2,507,770 | 175,547 | 2,336,778 | 117,481 | 53,511 | 2,683,317 |
| HANCOCK | | 43 | 5,133,638 | 347,917 | 4,820,558 | 203,113 | 109,967 | 5,481,555 |
| HARRISON | | 198 | 30,816,581 | 2,103,192 | 29,030,679 | 1,118,864 | 667,038 | 32,919,773 |
| HINDS | | 169 | 45,263,259 | 3,161,044 | 42,578,589 | 1,707,532 | 977,138 | 48,424,303 |
| HOLMES | | 11 | 1,986,336 | 139,047 | 1,842,900 | 101,315 | 42,121 | 2,125,383 |
| HUMPHREYS | | 8 | 626,149 | 43,831 | 581,752 | 31,086 | 13,311 | 669,980 |
| ISSAQUENA | | 1 | 16,527 | 1,157 | 15,561 | 605 | 361 | 17,684 |
| JACKSON | | 131 | 15,326,825 | 1,072,897 | 14,389,351 | 607,383 | 330,091 | 16,399,722 |
| JASPER | | 3 | 560,726 | 39,252 | 519,880 | 28,920 | 11,926 | 599,978 |
| JEFFERSON | | 2 | 518,618 | 36,304 | 481,210 | 26,370 | 11,038 | 554,922 |
| JEFFERSON DAVIS | | 4 | 1,418,456 | 99,291 | 1,313,507 | 74,788 | 30,161 | 1,517,747 |
| JONES | | 21 | 6,219,567 | 435,369 | 5,791,364 | 295,589 | 132,614 | 6,654,936 |
| KEMPER | | 3 | 975,179 | 68,263 | 903,210 | 51,227 | 20,742 | 1,043,442 |
| LAFAYETTE | | 71 | 8,827,392 | 617,926 | 8,332,369 | 303,698 | 191,325 | 9,445,318 |
| LAMAR | | 32 | 4,759,884 | 333,193 | 4,490,358 | 166,451 | 103,075 | 5,093,077 |
| LAUDERDALE | | 55 | 9,932,757 | 685,603 | 9,290,279 | 429,551 | 212,927 | 10,618,360 |
| LEE | | 70 | 13,497,650 | 944,842 | 12,600,652 | 608,742 | 288,256 | 14,442,492 |
| LEFLORE | | 22 | 3,843,950 | 269,078 | 3,585,335 | 176,613 | 82,002 | 4,113,028 |
| LOWNDES | | 52 | 6,024,786 | 411,848 | 5,635,853 | 259,778 | 129,155 | 6,436,634 |
| MADISON | | 105 | 19,172,984 | 1,342,118 | 18,149,510 | 606,324 | 417,150 | 20,515,102 |
| MARION | | 11 | 1,625,081 | 113,756 | 1,515,889 | 74,436 | 34,756 | 1,738,837 |
| MARSHALL | | 12 | 2,303,958 | 161,276 | 2,131,681 | 123,718 | 48,559 | 2,465,234 |
| MONROE | | 4 | 1,344,391 | 94,107 | 1,247,652 | 68,283 | 28,456 | 1,438,498 |
| MONTGOMERY | | 5 | 765,719 | 53,600 | 710,966 | 38,517 | 16,236 | 819,319 |
| NESHOBA | * | 5 | 1,131,287 | 79,190 | 1,066,229 | 40,355 | 24,703 | 1,210,477 |
| NOXUBEE | | 4 | 960,513 | 67,235 | 890,716 | 49,384 | 20,413 | 1,027,748 |
| OKTIBBEHA | | 37 | 6,654,214 | 465,796 | 6,218,357 | 293,470 | 142,387 | 7,120,010 |
| PANOLA | | 22 | 3,941,123 | 275,881 | 3,663,384 | 194,007 | 83,732 | 4,217,004 |
| PERRY | | 2 | 417,284 | 29,210 | 387,101 | 21,317 | 8,866 | 446,494 |
| PIKE | | 31 | 3,827,058 | 267,899 | 3,574,744 | 170,328 | 81,986 | 4,094,957 |
| QUITMAN | | 2 | 361,817 | 25,328 | 335,708 | 18,411 | 7,698 | 387,145 |
| RANKIN | ** | 1 | 3,144 | 220 | 3,040 | 33 | 71 | 3,364 |
| SHARKEY | | 1 | 546,180 | 38,233 | 506,961 | 27,586 | 11,633 | 584,413 |
| SUNFLOWER | | 19 | 2,205,849 | 154,410 | 2,049,126 | 109,817 | 46,906 | 2,360,259 |
| TALLAHATCHIE | | 5 | 854,291 | 59,801 | 793,223 | 42,926 | 18,142 | 914,092 |
| TUNICA | | 38 | 6,044,770 | 423,137 | 5,669,478 | 244,876 | 130,416 | 6,467,907 |
| WARREN | | 45 | 6,093,863 | 426,573 | 5,708,781 | 253,997 | 131,085 | 6,520,436 |
| WASHINGTON | | 42 | 6,560,933 | 459,271 | 6,129,052 | 291,222 | 140,659 | 7,020,204 |
| WILKINSON | | 3 | 512,070 | 35,846 | 478,193 | 22,889 | 10,988 | 547,916 |
| YALOBUSHA | | 8 | 637,144 | 44,602 | 588,581 | 35,178 | 13,385 | 681,746 |
| YAZOO | | 11 | 2,292,651 | 160,487 | 2,133,352 | 110,394 | 48,905 | 2,453,138 |
| TOTALS | | 1,612 | $274,130,869 | $19,095,037 | $257,058,694 | $11,176,516 | $5,895,659 | $293,225,906 |
| COMMON CARRIER & NATIVE WINERIES | | | | | | 3,194 | | 3,194 |
| GRAND TOTALS | | 1,612 | $274,130,869 | $19,095,037 | $257,058,694 | $11,179,710 | $5,895,659 | $293,229,100 |

* Choctaw Indian Reservation
** Alcohol Processor

Figure 2.1: Wet and dry areas in all counties of Mississippi, 2009. Source: Mississippi State Tax Commission, Office of Alcohol and Beverage Control.

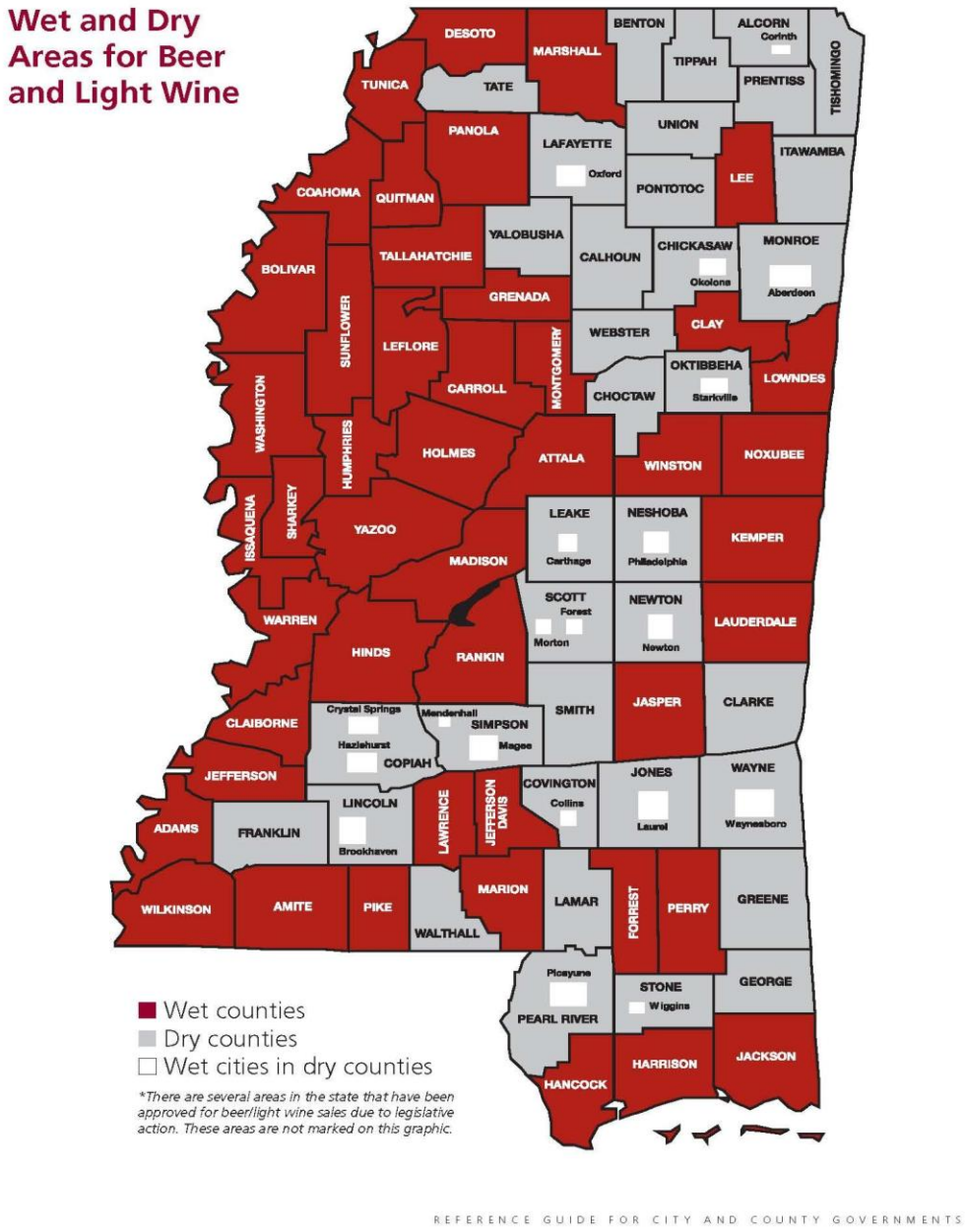



Figure 2.1, above, shows the wet and dry counties of Mississippi for beer and light wine, 2009. It is interesting to note that some of the counties in the state with the highest alcohol consumption rates, fall within the designated dry counties.

# STUDENT USE – GENERAL DRINKING

The chart below summarizes the indicators for General Drinking by students, along with the sources of data.

| STUDENT USE OF ALCOHOL<br>A. GENERAL DRINKING | |
|---|---|
| **INDICATORS** | **DATA SOURCE** |
| • Availability of alcohol at home among 6-11$^{th}$ graders, 2009 (%) | MS Smart Track Survey |
| • 6-11$^{th}$ graders' perceptions of risks associated with Substance Use, 2009 (%) | MS Smart Track Survey |
| • Age at first use of a) beer, b) wine coolers, and c) other alcohol among 6–11$^{th}$ graders, 2009 (%) | MS Smart Track Survey |
| • Past 30 day use of ≥ 1 alcoholic drinks by 9-12$^{th}$ graders (%), 1995-2009 (National/MS; male/female; black/white) | Youth Risk Behavior Surveillance System (YRBSS) |
| • Past 30 day consumption of ≥ 1 alcoholic drinks on school property by 9-12$^{th}$ graders, 1995-2009 (Nationwide and statewide; male/female; black/white) | YRBSS |
| • Past 30 day use, 2009 (%):<br>– beer (grades 6-11, State, county)<br>– wine coolers (grades 6-11, State, county)<br>– other alcohol (grades 6-11, State, county)<br>– all alcohol (grades 6-11, State, race) | MS Smart Track Survey |

## Availability

The figure below summaries the data on three questions answered by 6-11th grade students in 2009: 1) Is alcohol available to you at home? 2) Is it available to you from older friends? 3) Is it available to you in the community? The data suggest that alcohol is mostly available in the community (64%), followed by home (42%), and older friends (22%).

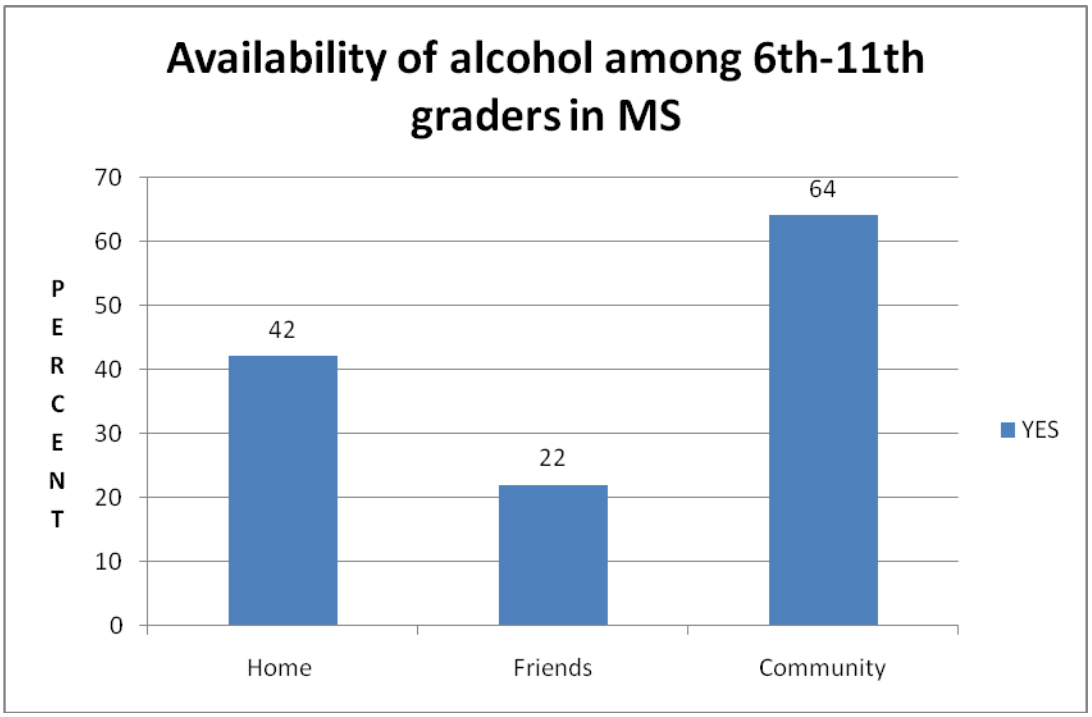



Figure 2.2: Self-reported availability of alcohol from home, older friends or the community by 6-11th graders. Source: MS Smart Track Survey, 2009.

## Perception of Risk and Disapproval

Figure 2.3: Disapproval of ATOD use among 6th-11th Grade students, MS SmartTrack Survey

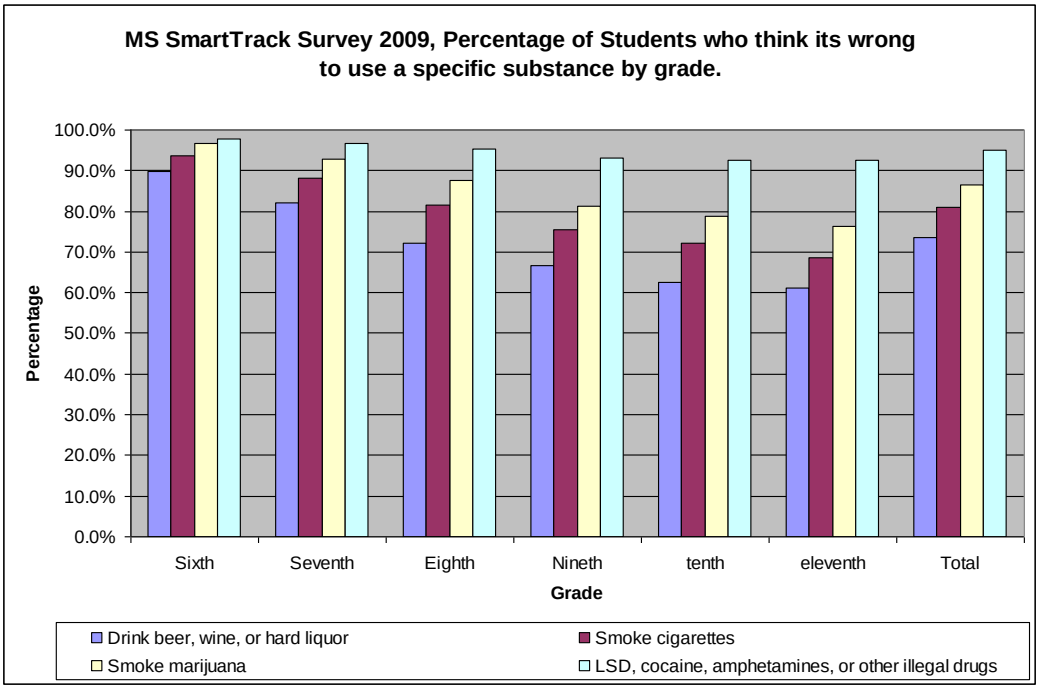



Figure 2.3. above shows that more students disapprove of the use of other illegal drugs compared to either marijuana, cigarettes or alcohol. Fewer students disapprove of alcohol use compared to other drugs. Generally disapproval rates tend to decrease with increasing grade for all substances.

Table 2.1a. below shows 6-11th graders' perceptions of risks associated with trying or using tobacco, marijuana and alcohol. Approximately 47% of sixth grade students saw no or slight risk in taking one or two drinks of alcohol regularly, 44% saw no or slight risk in using smokeless tobacco and 32% using marijuana and approximately 30% using cocaine regularly. This perception generally tends to decrease with increasing grade level, implying that students may see a greater risk of using ATOD as they get older.

**Table 2.1a. Perception of risk associated with regular use of a ATOD: Percentage of Students who see no or slight risk by grade**

| | Sixth | Seventh | Eighth | Ninth | Tenth | Eleventh | Total |
|---|---|---|---|---|---|---|---|
| Smokeless Tobacco | 44.3% | 36.2% | 33.2% | 31.4% | 27.9% | 25.1% | 33.6% |
| Marijuana | 32.3% | 24.0% | 21.2% | 23.3% | 22.9% | 23.0% | 24.5% |
| Cocaine powder | 29.5% | 20.7% | 15.7% | 15.8% | 13.5% | 11.9% | 18.3% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Crack cocaine | 28.8% | 20.2% | 15.6% | 15.6% | 13.3% | 11.9% | 18.0% |
| Alcohol | 46.6% | 44.2% | 44.3% | 44.3% | 42.1% | 41.4% | 44.0% |

**Table 2.1b. Perception of risk associated with trying a substance once or twice: Percentage of Students who see no or slight risk by grade**

| | Sixth | Seventh | Eighth | Ninth | Tenth | Eleventh | Total |
|---|---|---|---|---|---|---|---|
| Smoke one or more packs of cigarettes per day | 35.4% | 28.6% | 24.5% | 24.1% | 22.4% | 21.0% | 26.4% |
| Marijuana | 46.3% | 41.9% | 43.6% | 47.5% | 50.2% | 51.3% | 46.4% |
| Cocaine powder | 42.8% | 35.7% | 31.4% | 29.2% | 26.5% | 23.9% | 32.2% |
| Crack cocaine | 41.6% | 34.7% | 29.6% | 27.5% | 24.6% | 22.0% | 30.7% |
| Alcohol | 64.5% | 64.8% | 66.6% | 66.8% | 66.4% | 66.3% | 65.9% |

Table 2.1b. Shows that a significant number of students see no or slight risk in trying Alcohol, a trend that is observed across all grade levels.

The figure below shows the age at which beer was first consumed by 6-11$^{th}$ graders in 2009. Students were asked to state when they first consumed beer. The data suggest that most students had their first drink of beer between ages of 11-14 years.

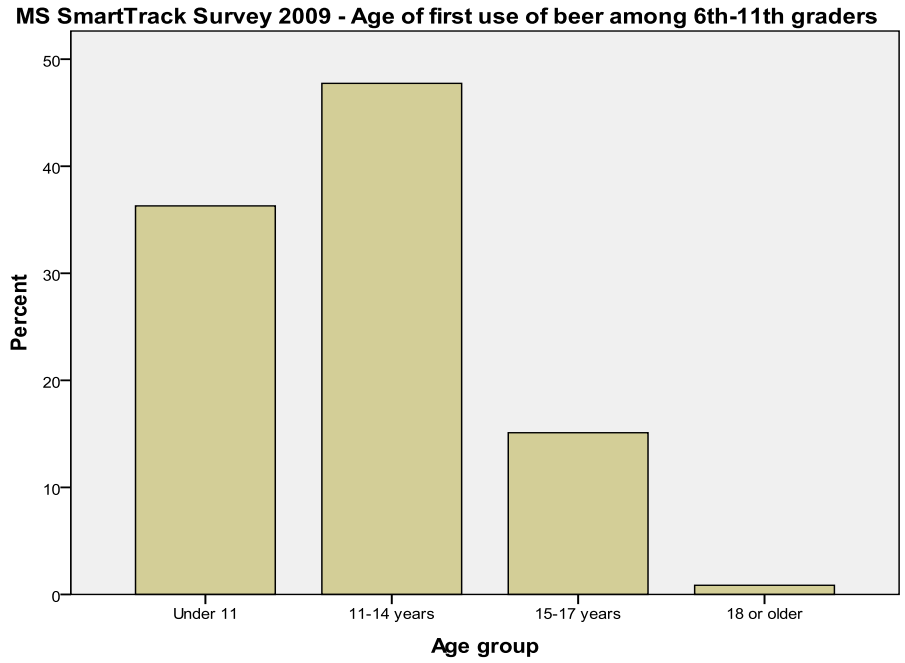



Figure 2.4a: Percentage of 6-11$^{th}$ graders who reported drinking beer for the first time at different age groups. Source: MS Smart Track Survey, 2009.

The figure below shows the age at first use of wine coolers among 6-11th graders in 2009, which shows a similar age pattern to that of the first use of beer, with most students reporting first use of wine coolers between ages 11 and 14 years.

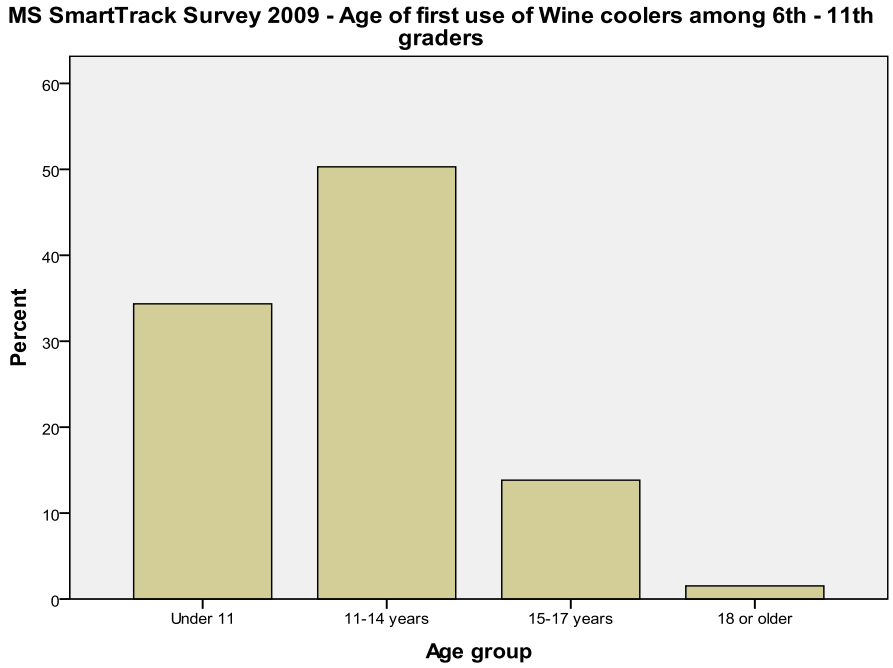



Figure 2.4b: Percentage of 6-11th graders who reported first drinking wine coolers by age group. Source: MS Smart Track Survey, 2009.

Figure 2.4c, below, shows the age at first use of other alcoholic beverages among 6-11th graders in 2009.

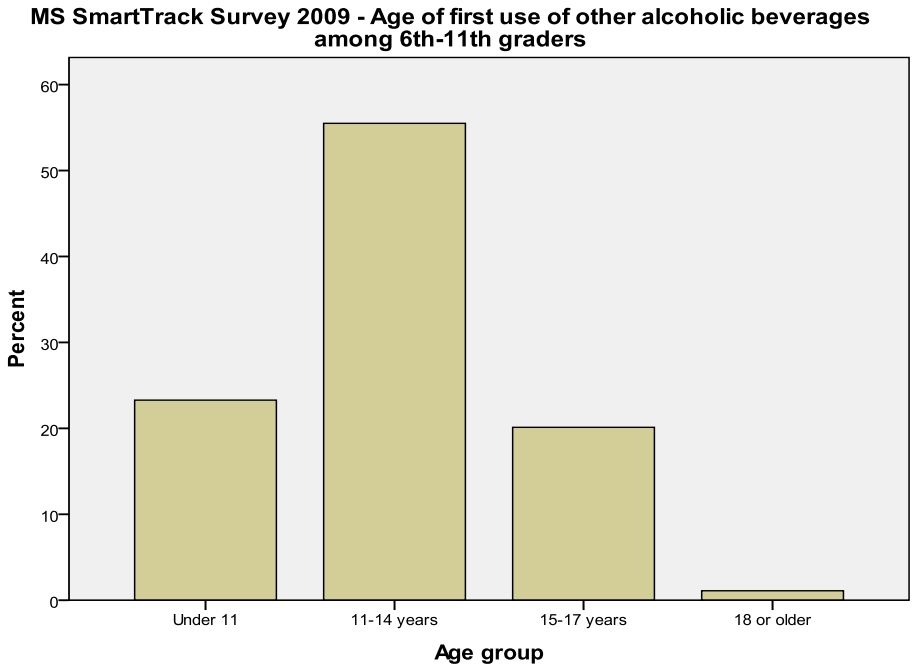



Figure 2.4c: Percentage of 6-11th graders who reported first drinking "other alcohol" by age group. Source: MS Smart Track Survey, 2009.

The table below depicts the percentage of 9-12th grade *students who had at least one alcoholic drink in the past 30 days*, during the period 1995 to 2009, by location (national, state), race (black vs. white) and gender. Rates among whites are consistently higher than those of African Americans. Rates of males are also higher than those of females.

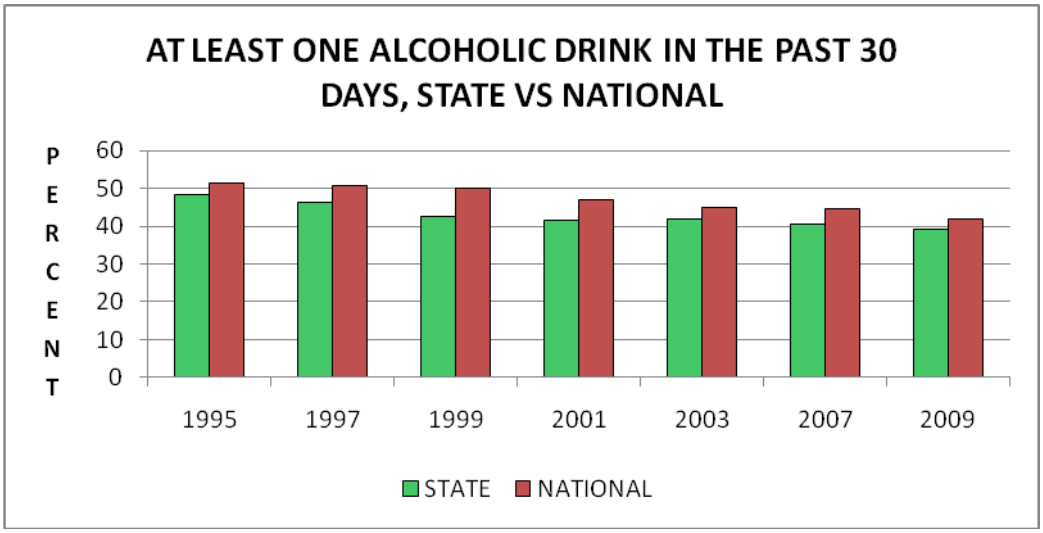
**Table 2.2: Percentage of high school students (9-12th graders) who had at least one alcoholic drink in the past 30 days, 1995-2009. Source: YRBSS**

N=National S=State

| Year | | 1995 | | 1997 | | 1999 | | 2001 | | 2003 | | 2007 | | 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEX** | RACE | N | S | N | S | N | S | N | S | N | S | N | S | N | S |
| **TOTAL** | TOTAL | 51.6 | 48.5 | 50.8 | 46.4 | 50.0 | 42.5 | 47.1 | 41.7 | 44.9 | 41.8 | 44.7 | 40.6 | 41.8 | 39.2 |
| | WHITE | 54.1 | 55.8 | 54.0 | 50.4 | 52.5 | 50.2 | 50.4 | 47.0 | 47.1 | 48.7 | 47.3 | 46.8 | 44.7 | 43.2 |
| | BLACK | 42.0 | 43.1 | 36.9 | 43.9 | 39.9 | 35.4 | 32.7 | 35.8 | 37.4 | 34.7 | 34.5 | 33.9 | 33.4 | 35.5 |
| **FEMALE** | TOTAL | 49.9 | 41.0 | 47.8 | 43.3 | 47.7 | 38.6 | 45.0 | 40.6 | 45.8 | 40.0 | 44.6 | 38.8 | 42.9 | 37.6 |
| | WHITE | 53.3 | 49.6 | 51.6 | 49.7 | 49.8 | 47.8 | 48.3 | 45.4 | 48.4 | 47.0 | 47.1 | 46.7 | 45.9 | 41.4 |
| | BLACK | 38.5 | 33.6 | 34.9 | 38.7 | 40.7 | 31.1 | 30.6 | 35.0 | 37.0 | 32.1 | 34.9 | 31.5 | 35.6 | 34.2 |
| **MALE** | TOTAL | 53.2 | 56.1 | 53.3 | 49.9 | 52.3 | 46.7 | 49.2 | 42.9 | 43.8 | 44.0 | 44.7 | 41.9 | 40.8 | 40.7 |
| | WHITE | 54.8 | 61.1 | 56.0 | 51.7 | 54.9 | 52.5 | 52.6 | 48.8 | 45.9 | 50.6 | 47.4 | 46.7 | 43.6 | 44.8 |
| | BLACK | 45.9 | 54.1 | 39.2 | 49.4 | 39.1 | 40.6 | 35.0 | 36.5 | 37.5 | 37.6 | 34.1 | 36.9 | 31.2 | 36.7 |

Figure 2.5, below, is a partial graphic representation of the data in Table 2.2. The data show that 1) national rates are higher than state rates overall, 2) there has been a decreasing trend in occasional drinking both nationally and statewide from 1995 to 2001, and 3) since 2001, while national percentages continued to decrease, Mississippi percentages remained stable (2003-2009).

Figure 2.5: Percentage of high school students (9-12th graders) who had at least one alcoholic drink in the past 30 days, 1995-2009. Source: Youth Risk Behavior Surveillance System (YRBSS).




The table below depicts the annual percentage of *high school students who had at least one alcoholic drink on school property in the past 30 days*, by location (national, state), gender, and race (black, white), during the years 1995 to 2009. The table shows a slight overall decrease over time; no clear difference between national and state rates; consistently higher rates among males; and no clear difference between blacks and whites.

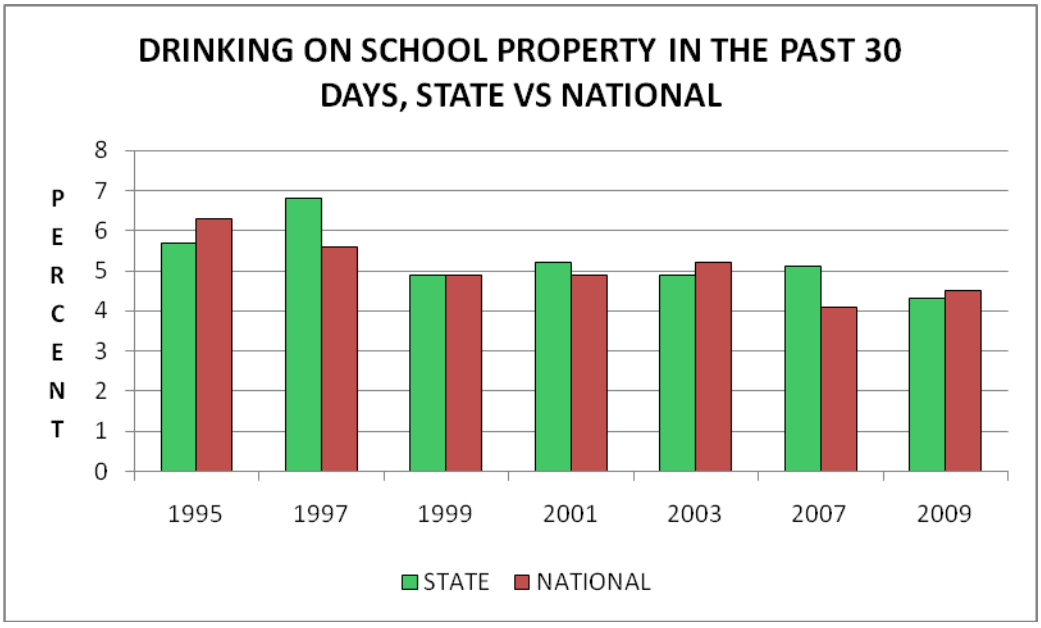
Table 2.3: Percentage of high school (9-12th graders) students who had at least one alcoholic drink on school property for the past 30 days, 1995-2009. Source: YRBSS.

N=NATIONAL S=STATE

| Year | | 1995 | | 1997 | | 1999 | | 2001 | | 2003 | | 2007 | | 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEX | RACE | N | S | N | S | N | S | N | S | N | S | N | S | N | S |
| TOTAL | TOTAL | 6.3 | 5.7 | 5.6 | 6.8 | 4.9 | 4.9 | 4.9 | 5.0 | 5.2 | 4.9 | 4.1 | 5.1 | 4.5 | 4.3 |
| | WHITE | 5.6 | 6.5 | 4.8 | 4.6 | 4.8 | 5.0 | 4.2 | 4.3 | 3.9 | 3.8 | 3.2 | 3.0 | 3.3 | 3.6 |
| | BLACK | 7.6 | 5.3 | 5.6 | 8.3 | 4.3 | 4.2 | 5.3 | 5.2 | 5.8 | 5.9 | 3.4 | 6.7 | 5.4 | 4.8 |
| FEMALE | TOTAL | 5.3 | 4.2 | 3.6 | 5.2 | 3.6 | 3.7 | 3.8 | 3.6 | 4.2 | 3.8 | 3.6 | 3.0 | 3.6 | 3.3 |
| | WHITE | 4.6 | 4.8 | 2.9 | 2.5 | 3.4 | 3.3 | 3.2 | 2.9 | 3.2 | 2.9 | 2.6 | 2.2 | 2.3 | 3.3 |
| | BLACK | 5.2 | 3.2 | 4.0 | 7.1 | 2.6 | 3.6 | 3.1 | 4.0 | 3.8 | 4.6 | 3.2 | 3.5 | 4.8 | 3.1 |
| MALE | TOTAL | 7.2 | 7.2 | 7.2 | 8.6 | 6.1 | 6.0 | 6.1 | 6.3 | 6.0 | 6.0 | 4.6 | 7.2 | 5.3 | 5.3 |
| | WHITE | 6.5 | 8.0 | 6.3 | 7.0 | 6.1 | 6.6 | 5.3 | 5.9 | 4.5 | 4.7 | 3.8 | 3.9 | 4.1 | 3.9 |
| | BLACK | 9.6 | 7.6 | 7.3 | 9.6 | 6.2 | 4.9 | 7.5 | 6.2 | 7.9 | 7.4 | 3.7 | 10.4 | 5.9 | 6.7 |

Figure 2.6, below, is a partial graphic depiction of the data in Table 2.3, showing the annual percentage of *high school students who reported having at least one alcoholic drink on school property*, by location (state, national), for 1995-2009. The table shows that 1) both national and state rates have declined slightly between 1999 and 2007; and 2) in Mississippi and to a lesser extent nationwide, black males are more likely to report drinking on school property than white males (10.4% vs. 3.9% in MS in 2007).

Figure 2.6: Percentage of high school students (9-12th graders) who had at least one alcoholic drink on school property, 1995-2009. Source: Youth Risk Behavior Surveillance System (YRBSS).




The data presented below refer to *student consumption of specific alcoholic beverages* in the past 30 days: beer, wine coolers, other alcohol, and all alcohol, for 6th through 11th graders in Mississippi for 2009. We begin with beer consumption.

## Beer Consumption

Figure 2.7a: Percentage of 6th-11th graders who consumed beer in the past 30 days. Source: MS Smart Track Survey, 2009.

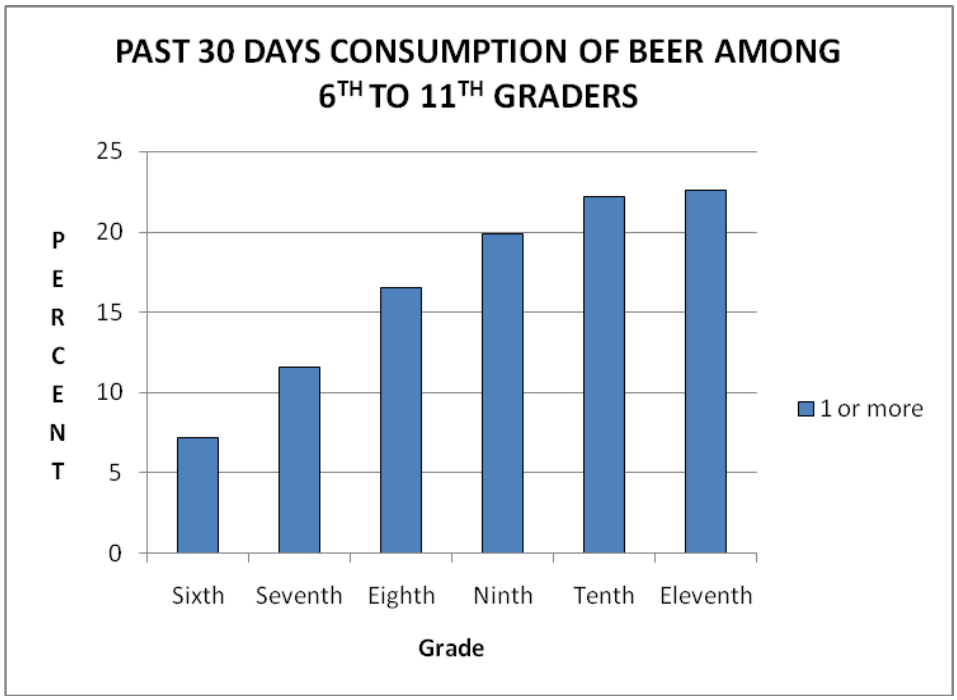



Figure 2.7a, above, shows the percentage of 6th-11th graders in Mississippi who reported *consuming beer one or more times during the past 30 days* in 2009. The figure shows a gradual increase in beer consumption as grade level increases (7.2% among 6th graders to 22.6% among 11th graders.)

The figure below shows the Annual Percentage Averages of 6th-11th graders in different counties of Mississippi who reported drinking beer in the past 30 days. County averages ranged from 8% to 23%.

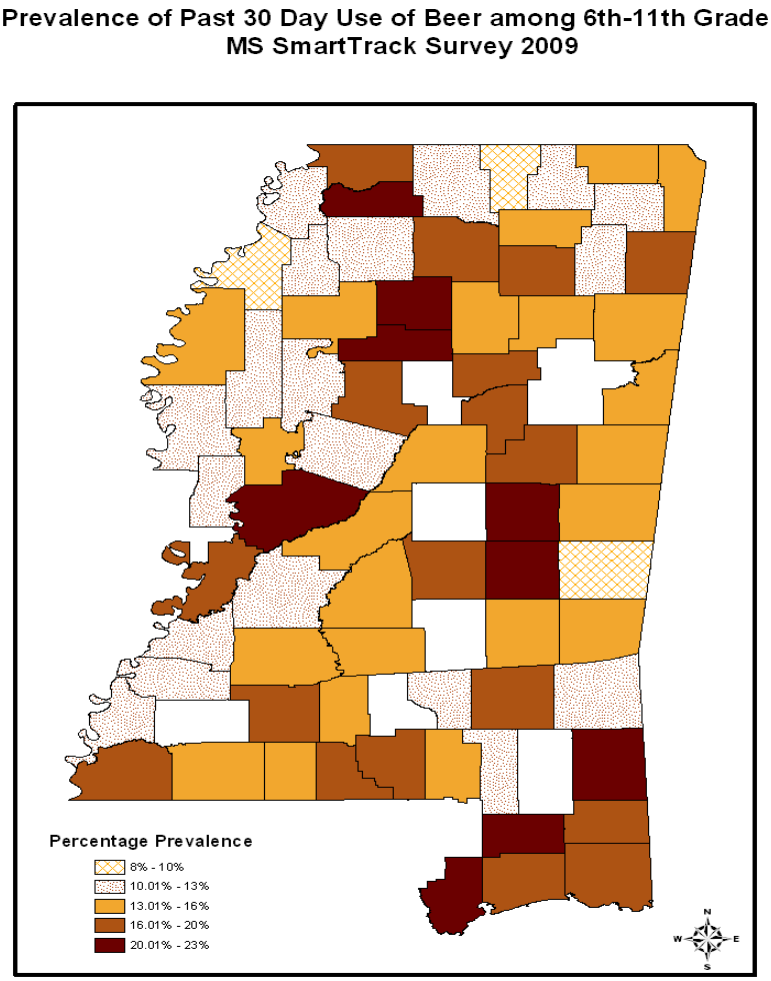



Figure 2.7b: Annual percentage averages of 6th-11th graders who consumed beer in the past 30 days, by county. Source: MS Smart Track Survey, 2009.

## Wine Coolers

Fig 2.8a, below, shows the percentage of 6th-11th graders reporting drinking one or more *wine coolers* in the past 30 days. The figure shows a doubling in use from 6th to 8th graders, similar percentages among 8th through 10th graders, and a decline among 11th graders to the level reported by 8th graders.

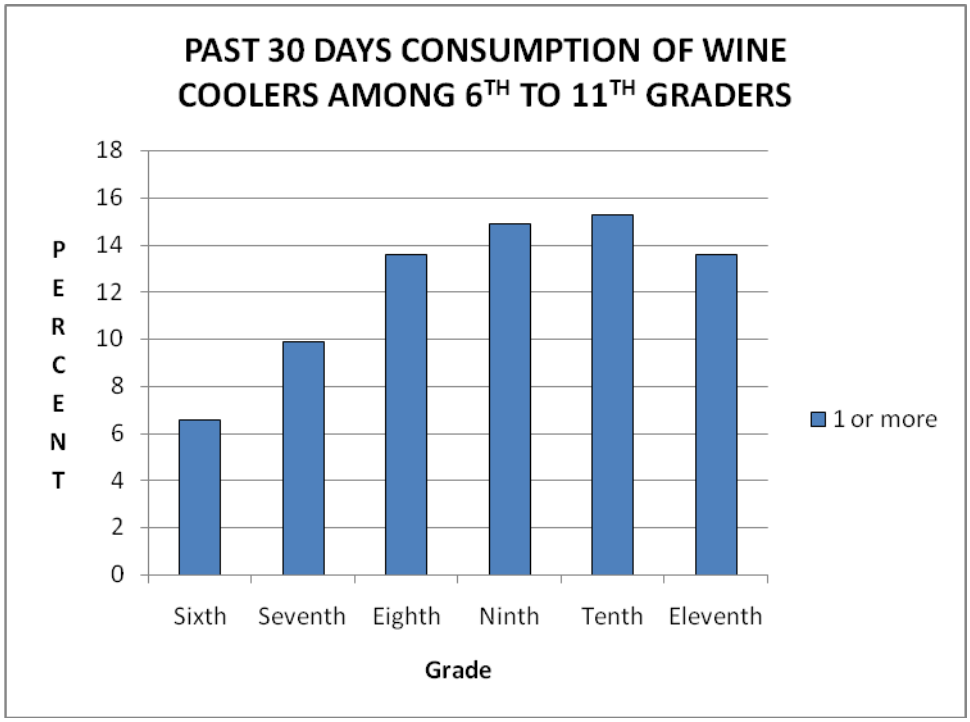



Figure 2.8a: Percentage of 6th-11th graders who consumed wine coolers in the past 30 days. Source: MS Smart Track Survey, 2009.

Figure 2.8b, below, shows the Annual Percentage Averages of 6th-11th graders in different counties of Mississippi who reported using wine coolers during the past 30 days, for 2009. The data indicate that the percentages ranged from 7 % to 25%.

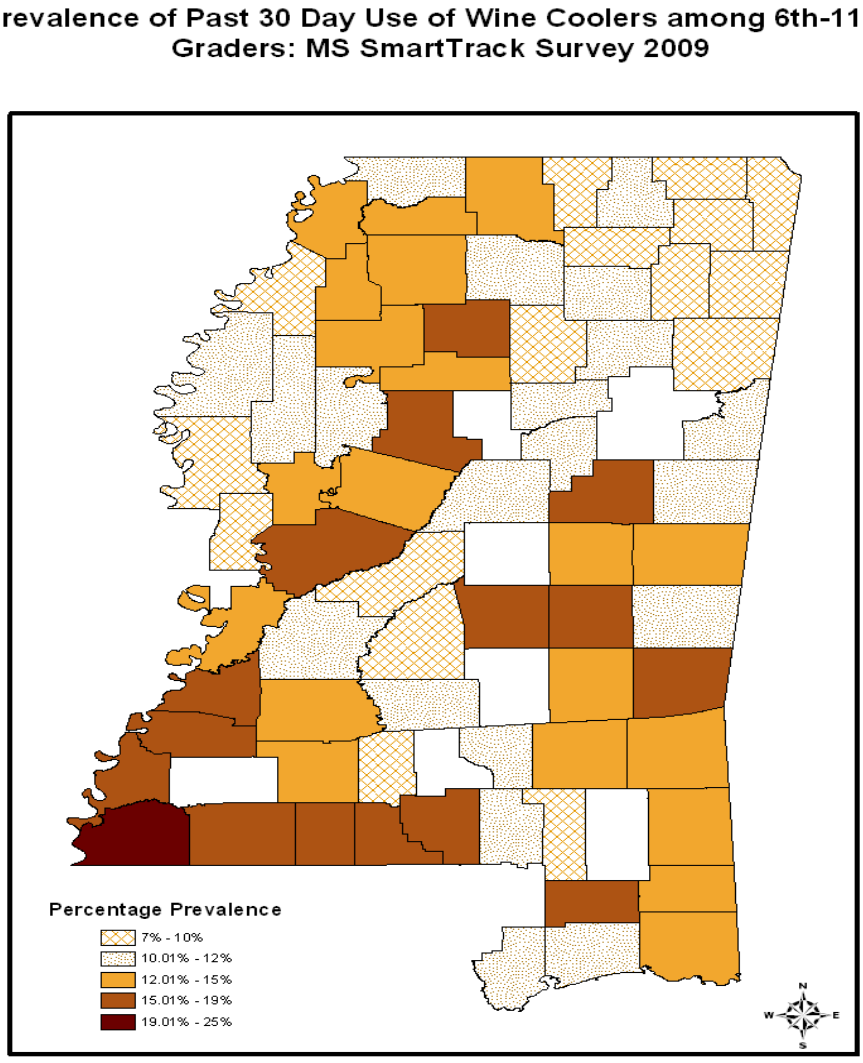



Figure 2.8b: Annual Percentage Averages of 6th-11th graders who consumed wine coolers in the past 30 days in different counties of Mississippi, grouped by percentages. Source: MS Smart Track Survey, 2009.

## Other Alcohol (excluding beer and wine)

Fig 2.9a, below, shows the percentage of 6th-11th graders who reported drinking *one or more other alcoholic beverages during the past 30 days* in 2009. The figure shows a marked increase in consumption from 6th graders to 11th graders (6.2% to 23.6%).

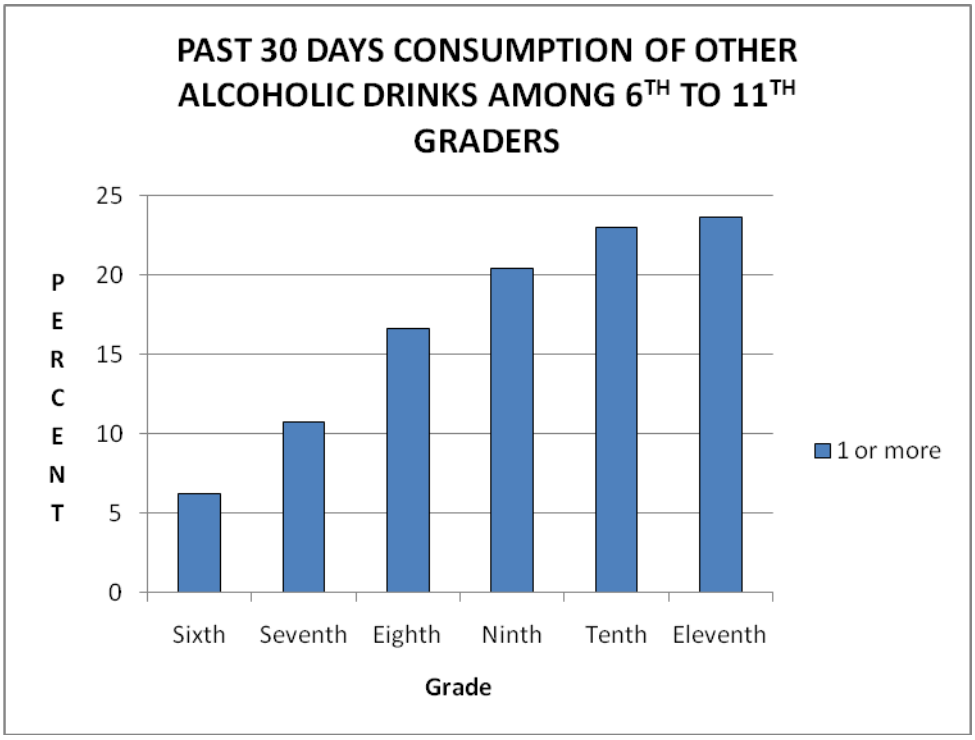



Figure 2.9a: Percentage of 6th-11th graders who consumed other alcohol in the past 30 days.
Source: MS Smart Track Survey, 2009.

Figure 2.9b below shows the Annual Percentage Averages of 6th to 11th graders who consumed other alcoholic beverages in the past 30-days, by county in Mississippi for 2009. The range was 9% to 22%.

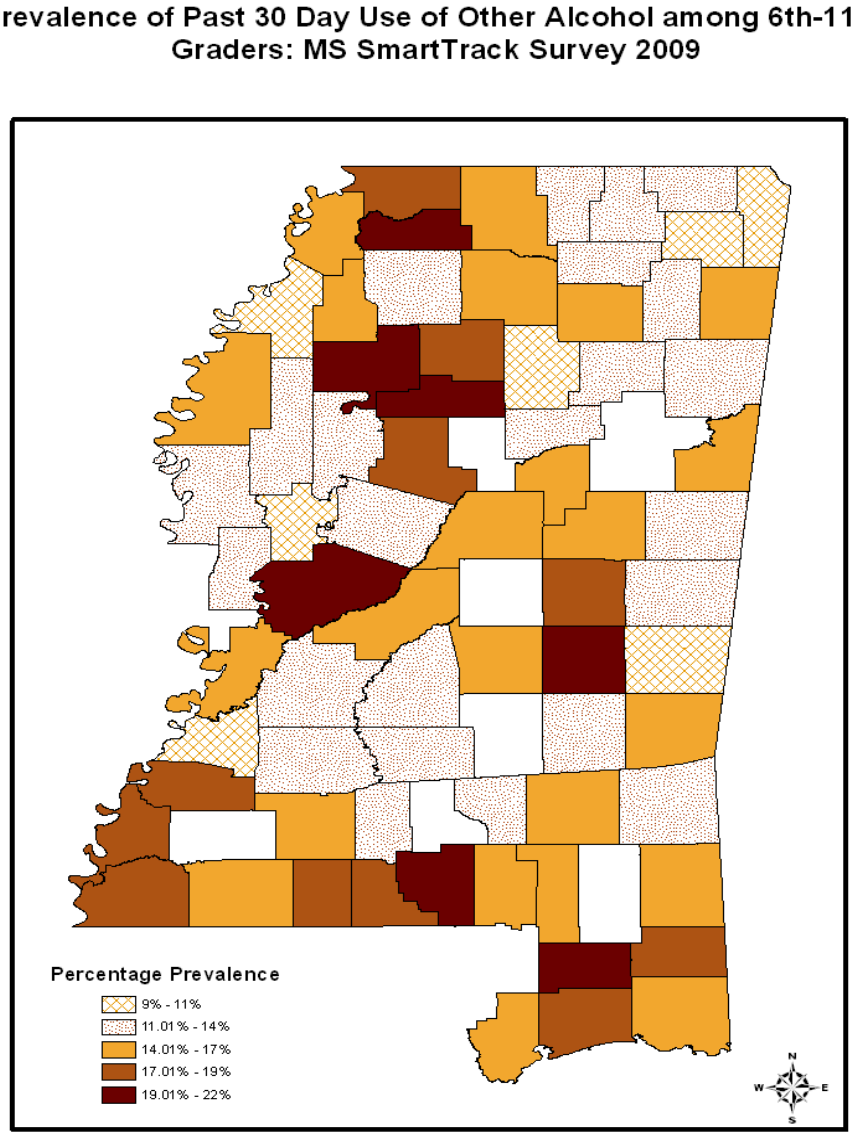



Figure 2.9b: Annual Percentage Averages of 6th-11th graders who consumed other alcoholic beverages in the past 30 days, by county. Source: MS Smart Track Survey, 2009.

## All Alcoholic Beverage Use

Fig 2.10a below shows that the percentage of 6th-11th graders who consumed *any type of alcoholic beverage* in the past 30 days. Percentages ranged from 12.2% (6th graders) to 32.9% (11th graders), indicating a progressive increase in alcohol consumption from 6th-11th graders.

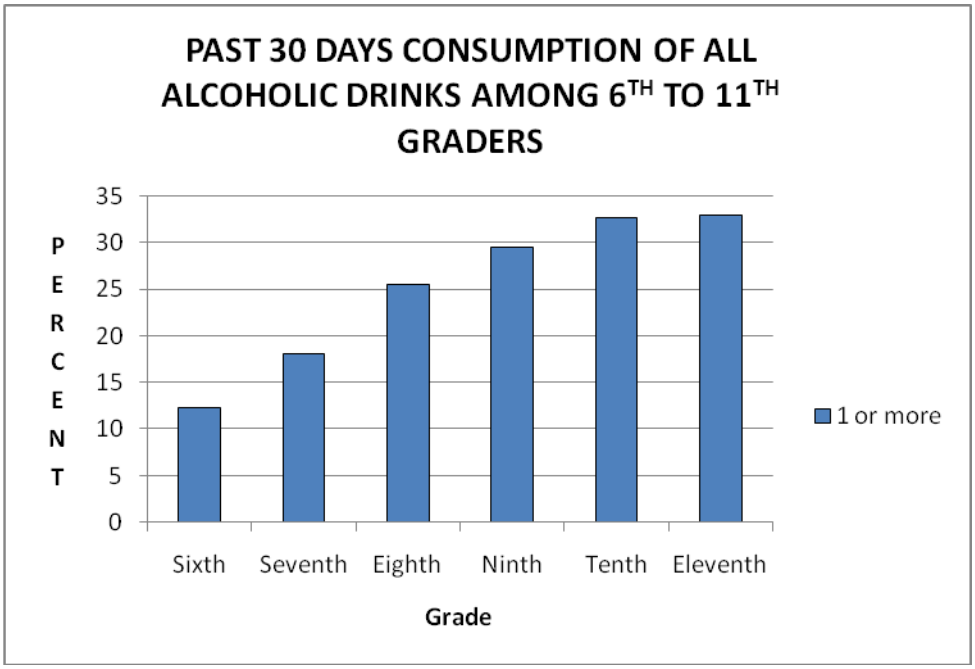



Fig.2.10a: Percentage of 6th-11th graders who consumed any type of alcoholic beverage during the past 30 days Source: MS Smart Track Survey, 2009.

Fig. 2.10b below shows that the percentage of 6th-11th graders in Mississippi by gender and race who consumed *any type of alcoholic beverage* in the past 30 days indicating a high alcohol consumption in white males and white females. White males seem to report more use compared to black males or other males respectively. Among males, black males report less use of alcohol than all race groups. The trend is almost similar for females, with white females reporting more use, and black females and other females having similar rates of use. When race is not considered, overall, consumption rates are similar between male and female students.

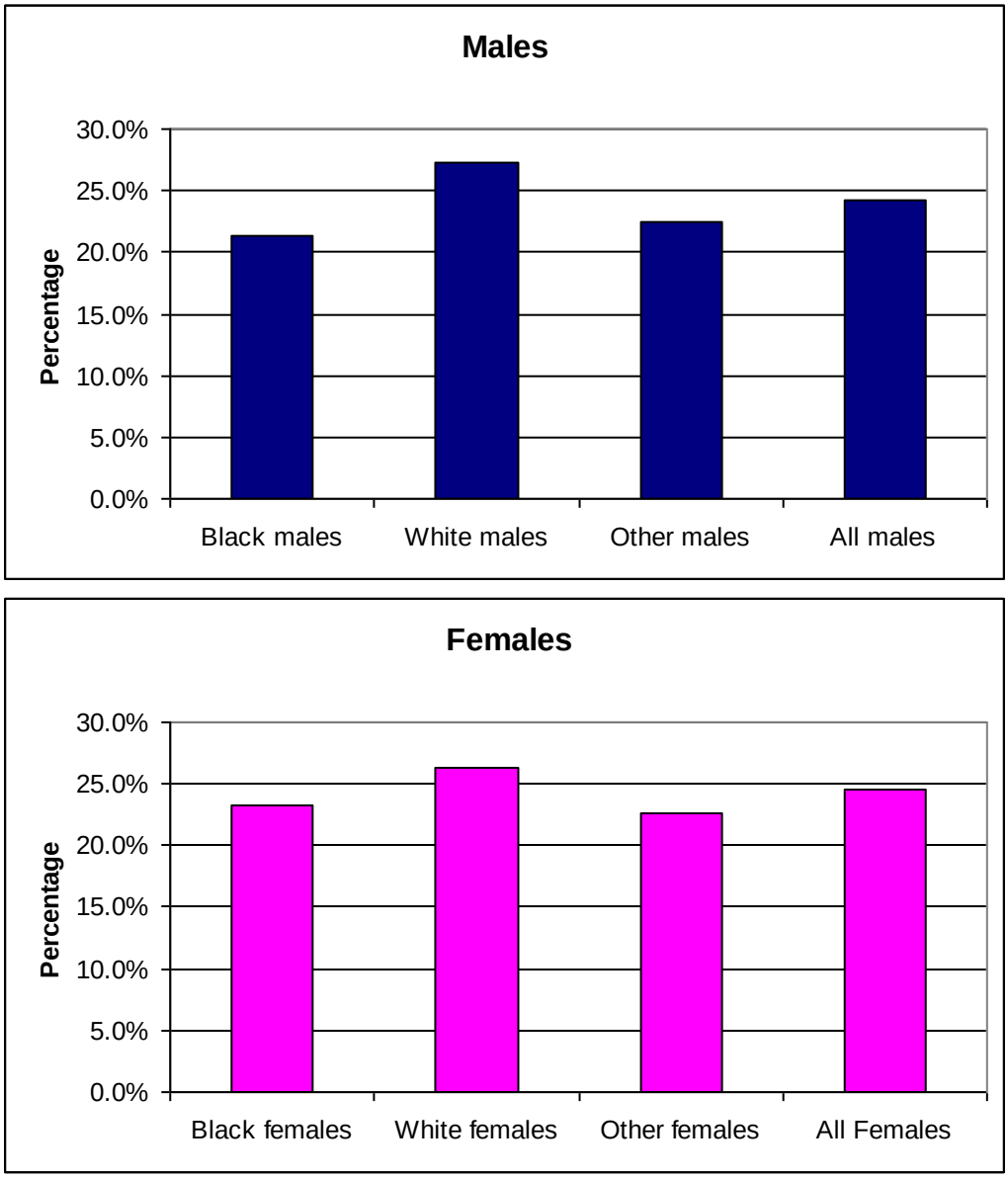



Fig.2.10b: Percentage of 6th-11th graders by race who consumed any type of alcoholic beverage during the past 30 days. Source: MS Smart Track Survey, 2009.

Figure 2.11, below, shows the percentage of 6th-11th graders who reported consuming beer, wine coolers, other alcohol, and all alcohol combined, during the past 30 days, in years 2004-2009. The data show that the percentage of 6th-11th graders consuming alcohol has declined among students in Mississippi, from about 30% to 25%.

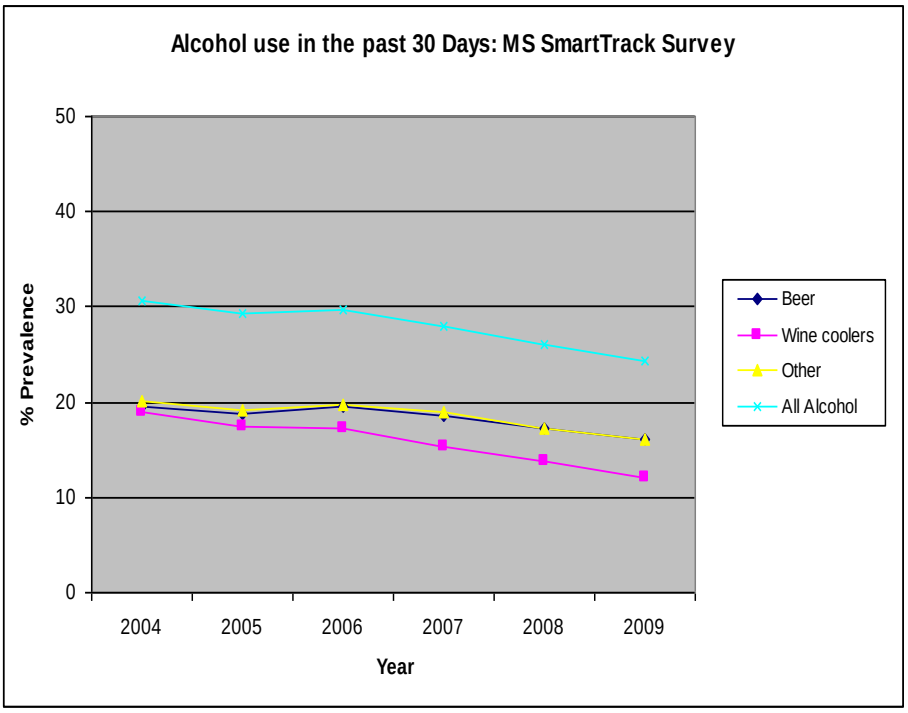



Figure 2.11: Reported percentage (prevalence) of alcohol use (beer, wine coolers, other alcohol, and all alcohol combined) in the past 30 days by 6th-11th graders, 2004-2009. Source: MS Smart Track Survey, 2004-2009.

Figure 2.12, below, shows the percentage of 6th-11th graders who reported consuming at least one alcoholic beverage during the past 30 days, in 2009. The data show that the consumption rates are higher around the coastal areas as well as metropolitan areas. It is also important to note that most of the Counties with higher consumption also have Casinos. Consumption rates ranged from about 12% to 33%.

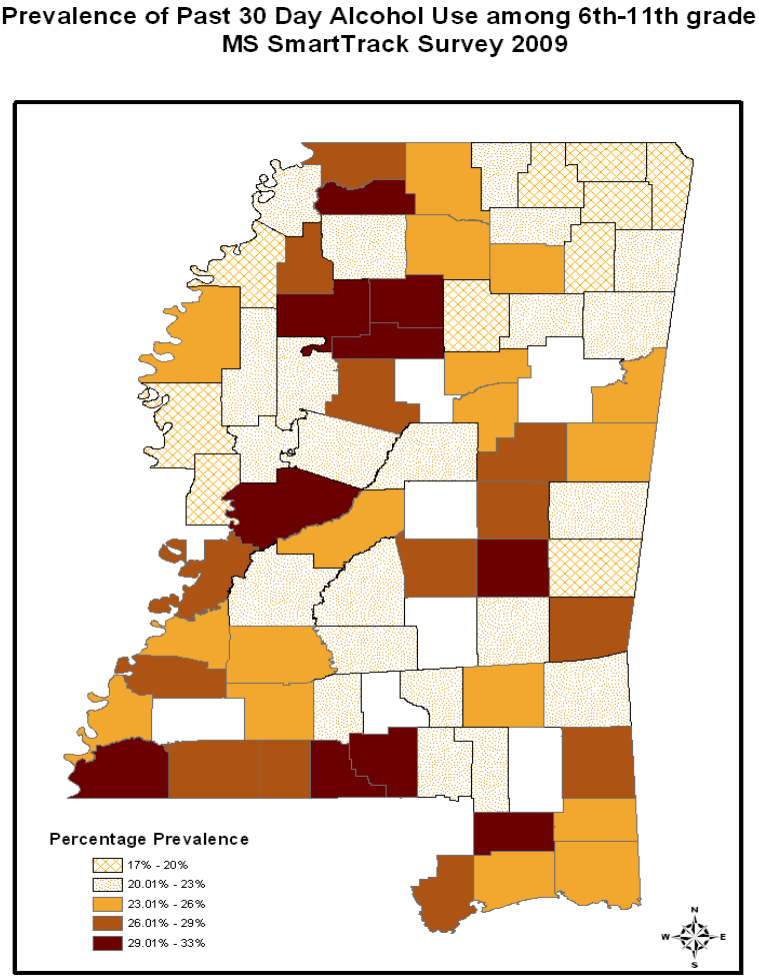



Figure 2.12: Annual percentage averages of 6th-11th graders who consumed at least one alcoholic beverage in the past 30 days. Source: MS Smart Track Survey, 2009.

# STUDENT USE—PROBLEM DRINKING

There are three *measurable indicators* of Problem Drinking among students:

1) binge drinking, and
2) frequency of binge drinking.

Binge-drinking is defined as consuming ≥ 5 alcoholic drinks in a row in 2 hours on one or more days within the past 30 days (%, by grade level). Frequency of binge drinking is defined as the number of days in which a person reported engaging in binge drinking in the past 30 days (combining all grade levels).

| CONSUMPTION DATA<br><br>STUDENT USE OF ALCOHOL: B. PROBLEM DRINKING | |
|---|---|
| **INDICATORS** | **DATA SOURCE** |
| • Percentage of 6th-11th graders who consumed ≥ 5 alcoholic drinks in a row within 2 hours on 1 or more days in the past 30 days, 2009 ('binge drinking", statewide and by county) | MS Smart Track Survey |
| • Percentage of 6th-11th graders combined who engaged in binge drinking on one or more days in the past 30 days in 2009 ("Frequency of binge-drinking") | MS Smart Track Survey |

The figure below shows the data on *binge drinking* among 6th-11th graders throughout Mississippi (i.e., the percentage of students consuming ≥ 5 alcoholic drinks in a row within 2 hours on one or more days, by grade level) in 2009. The data show a steady rise in binge drinking, from 6% among 6th graders, to almost 21% (1 in 5) among 11th graders.

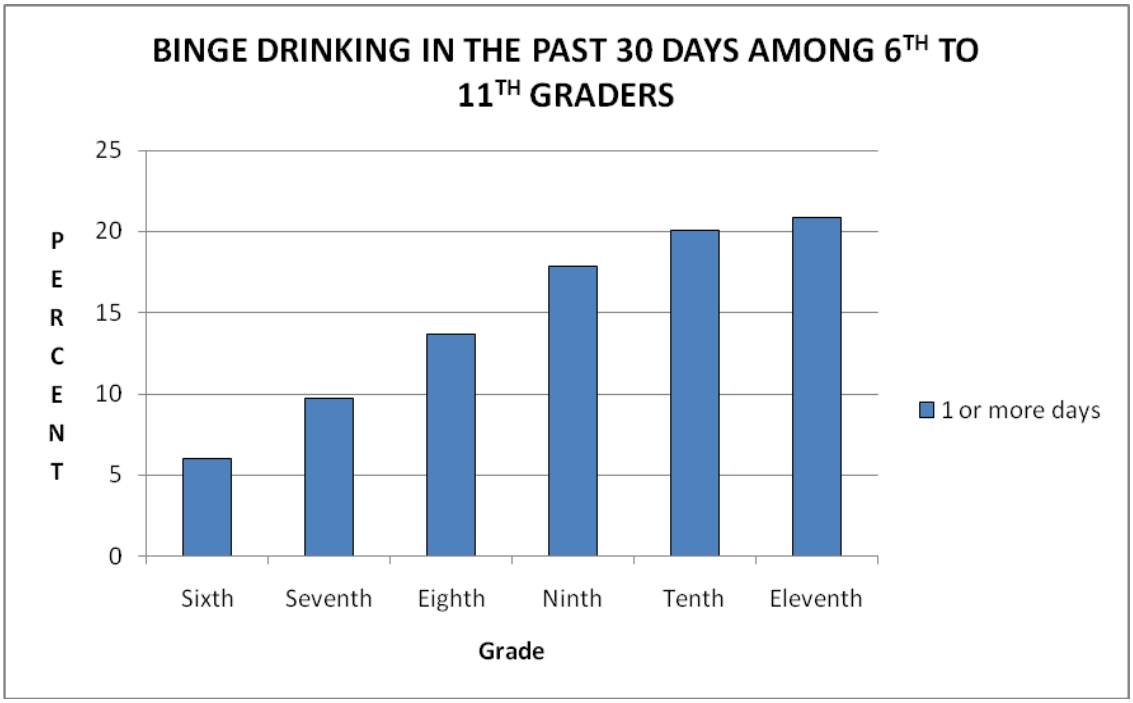
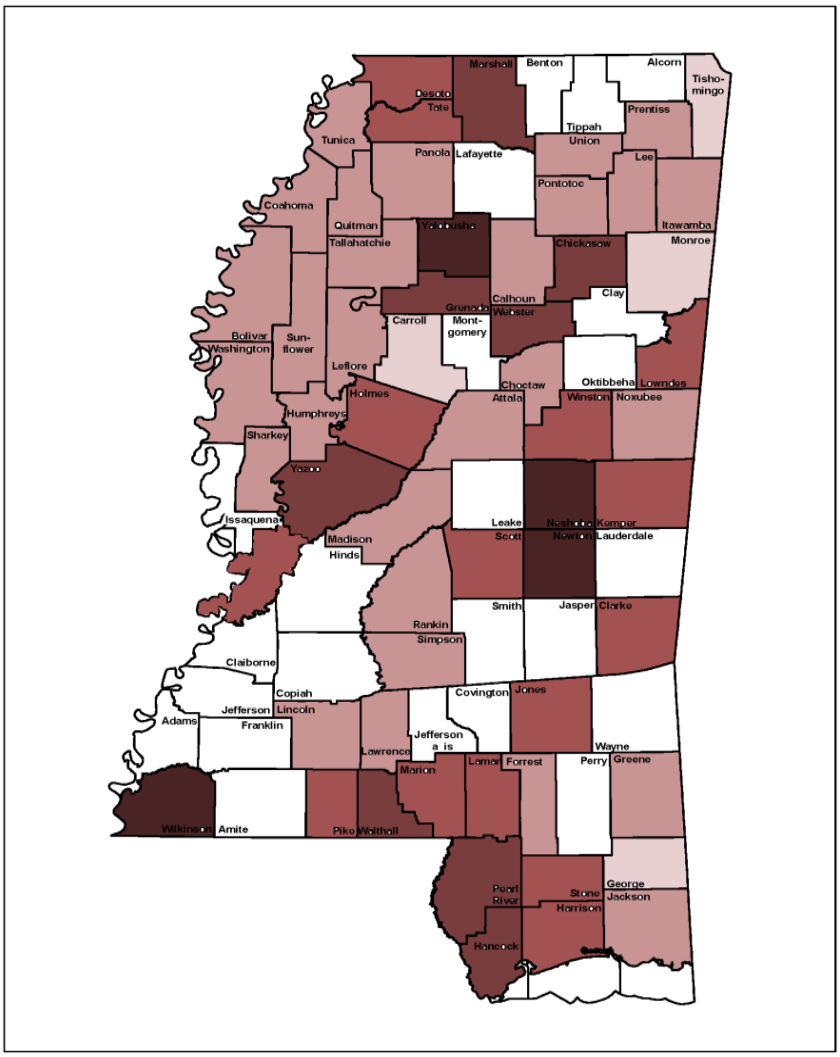



Figure 2.13a: Percentage of 6th-11th graders in Mississippi engaging in binge drinking (≥ 5 alcoholic drinks in a row within 2 hours on 1 or more days within the past 30 days) in 2009, grade level. Source: MS Smart Track Survey, 2009.

The figure below shows the percentage of self-reported binge drinkers among 6th to 11th graders within Mississippi *counties* in 2009. On average, 13.6% of students statewide reported binge drinking. County estimates ranged from 3.7% to over 25.4%. A total of 27 out of 61counties for which data were available were above the state average of 13.6%. The 10 counties with the highest percentage of binge drinkers were Neshoba, Yalobusha, Newton, Wilkinson, Pearl River, Grenada, Marshall, Yazoo, Walthall and Webster.




3.7-8.7
8.8-13.6
13.7-15.9
16.0-17.9
18.0-25.4
No data

Figure 2.13b: Annual percentage averages of self-reported binge drinkers among 6th to 11th graders in Mississippi, by county, 2009. Source: MS Smart Track Survey, 2009.

The figure below depicts the *frequency of binge drinking* among 6th-11th graders combined. As many as 85% of all students (6-11th graders) report never engaging in binge drinking (data not shown). The figure indicates that 5.4% report binge drinking once in the past 30 days; 3% report

doing so 2 days in the past month; and 1.1% report binge drinking on 20 or more days of the month (i.e., about 1 in 91 children).

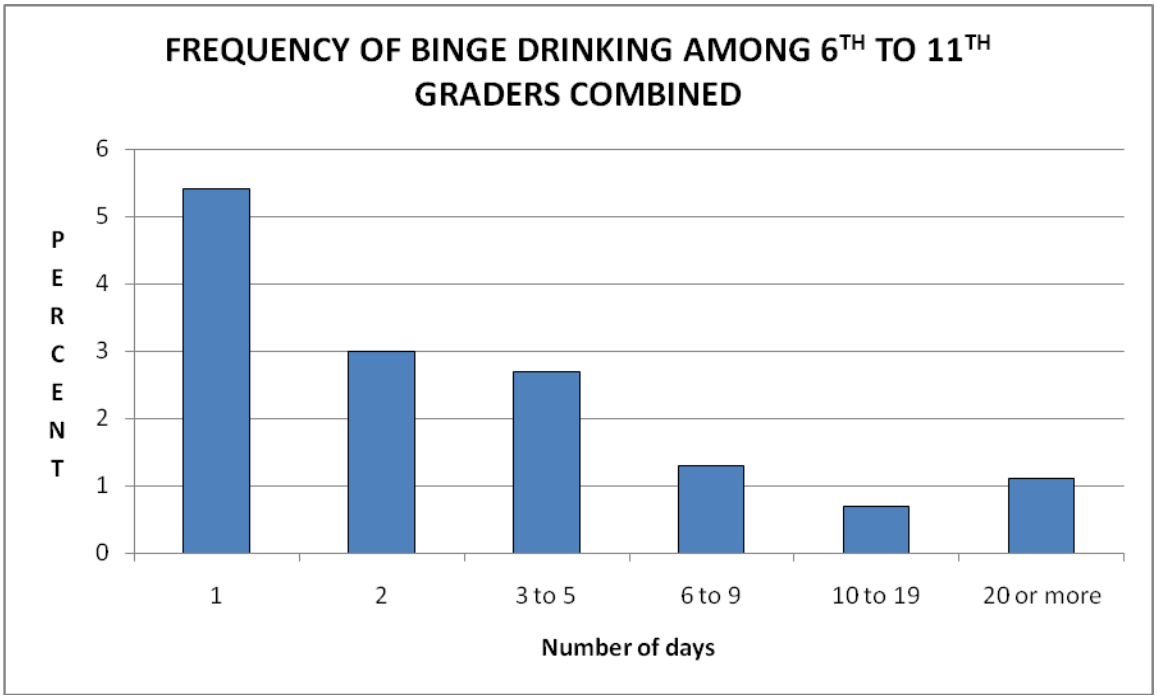



Figure 2.13c: Frequency of binge drinking among 6th-11th graders combined. Source: MS Smart Track Survey, 2009.

# ADULT USE—GENERAL DRINKING

The chart below summarizes the indicators and source of data for General Drinking by adults.

| CONSUMPTION DATA<br><br>ADULT USE OF ALCOHOL: A. GENERAL DRINKING | |
|---|---|
| **INDICATOR** | **DATA SOURCE** |
| • Percentage of adults who had ≥ 1 alcoholic drinks in the past 30 days in 2003, 2004, and 2008 (blacks/whites, males/females) (MS) | Behavioral Risk Factor Surveillance System (BRFSS) |
| • Percentage of adults who had at least one alcoholic drink in the past 30 days among all the states of the U.S. in 2008 | BRFSS, 2008 |

The table below shows the percentage of Mississippi adults, white and black, who had at least one alcoholic drink in the past 30 days during the years 2003, 2004, 2008, and 2009, and indicates consistently higher rates of general alcohol consumption among whites compared to blacks during those years. The data also suggest a slight overall decline in alcohol consumption, at least among African Americans.

Table 2.4: Percentage of black and white adults in Mississippi who reported having at least one alcoholic drink in the past 30 days in 2003, 2004, 2008 and 2009. (BRFSS, 2003-2009).

| CONSUMED AT LEAST ONE ALCOHOLIC DRINK IN THE PAST 30 DAYS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | | 2004 | | 2008 | | 2009 | |
| RACE | YES | NO | YES | NO | YES | NO | YES | NO |
| WHITE | 42.0 | 58.0 | 38.3 | 61.7 | 39.8 | 60.2 | 38.7 | 61.3 |
| BLACK | 39.4 | 60.6 | 37.2 | 62.8 | 33.8 | 66.2 | 33.5 | 66.5 |

The figure below shows the percentage of adults who had at least one alcoholic drink in the past 30 days, among all the states of the U.S. in 2008. Percentages ranged from ≤ 41.3% to ≥ 59%. Mississippi adults in general have some of the lowest levels of alcohol consumption in the country (≤ 41.3%).

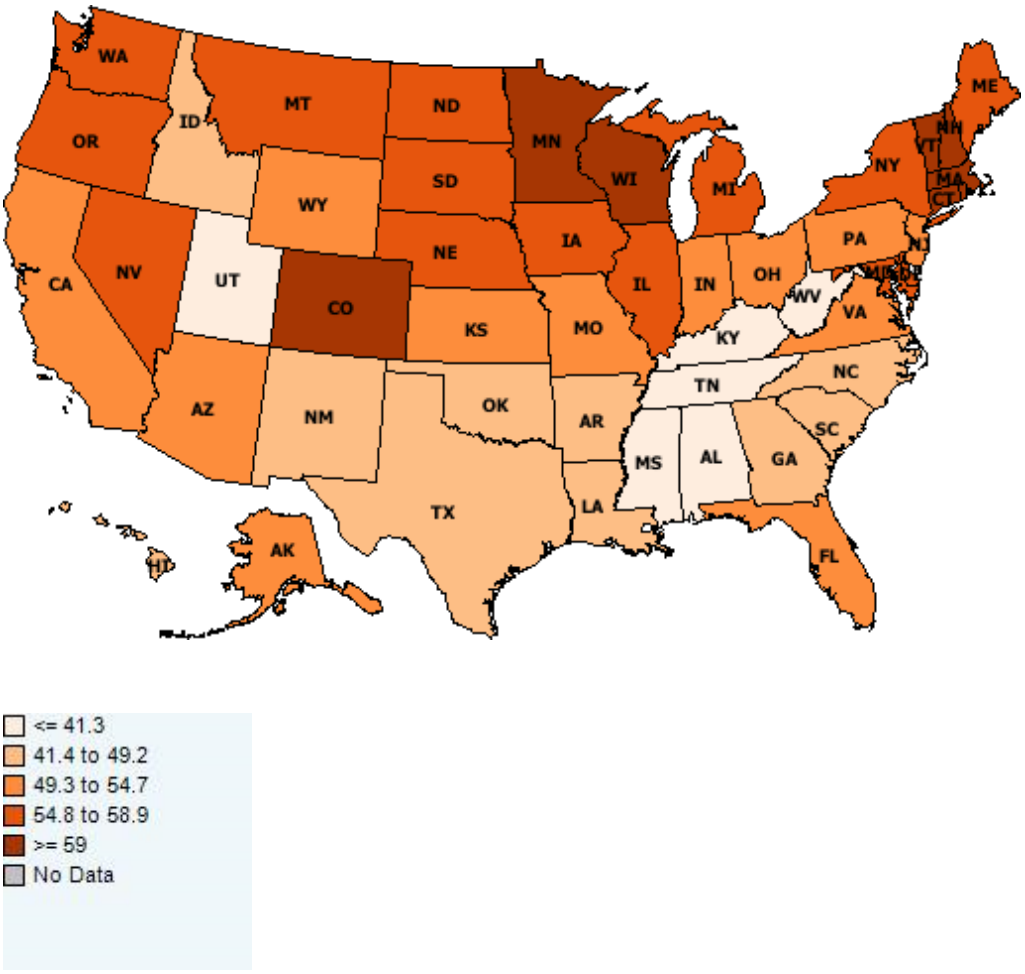



Figure 2.14a: Percentage of adults who had at least one alcoholic drink within the past 30 days during the year 2008, by state in the U.S. Source: Behavioral Risk Factor Surveillance System Maps, 2008.

The figure below shows the percentage of Mississippi adults who had at least one alcoholic drink in the past 30 days, in 2009. Adult males report a higher level of alcohol consumption compared to females.

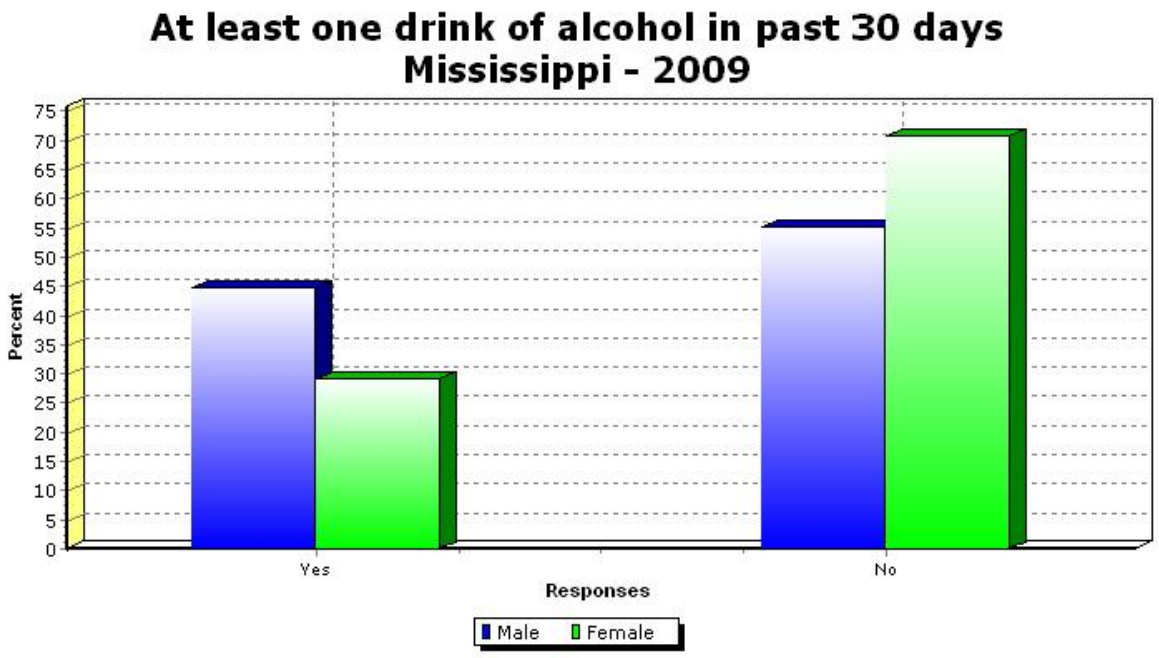



Figure 2.14b: Percentage of adult males and females who had at least one alcoholic drink within the past 30 days during the year 2009, Source: Behavioral Risk Factor Surveillance System, 2009.

## ADULT USE – PROBLEM DRINKING

The chart below summarizes the indicators for Problem Drinking (i.e., binge drinking and heavy drinking) by adults, along with the sources of data.

| CONSUMPTION DATA<br><br>ADULT USE OF ALCOHOL: B. PROBLEM DRINKING | |
|---|---|
| **INDICATORS** | **DATA SOURCE** |
| • Percentage of binge drinkers ( ≥ 5 drinks on one occasion) in 2003, 2004, 2008, and 2009 (blacks/whites) in Mississippi | BRFSS |
| • Percentage of binge drinkers among U.S. adults, 2008 | BRFSS |
| • Percentage of heavy drinkers among men (≥ 2 drinks per day) and women (≥ 1 drink per day) in 2003, 2004, 2008, and 2009 in Mississippi | BRFSS |

The table below indicates the percentage of black and white Mississippi adults who reported binge drinking (≥ 5 alcoholic drinks within 2 hours) in 2003, 2004, 2008, and 2009. Whites have consistently but only slightly higher rates of binge drinking compared to African Americans.

Table 2.5: Binge drinking by adults (≥ 5 alcoholic drinks on one occasion within 2 hours) in Mississippi in 2003, 2004, 2008 and 2009. Source: BRFSS.

| BINGE DRINKING | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | | 2004 | | 2008 | | 2009 | |
| RACE | YES | NO | YES | NO | YES | NO | YES | NO |
| WHITE | 11.8 | 88.2 | 11.6 | 88.4 | 10.7 | 89.3 | 10.1 | 89.9 |
| BLACK | 10.4 | 89.6 | 8.0 | 92.0 | 10.4 | 89.6 | 10.5 | 89.5 |

Figure 2.15 depicts the percentage of binge drinkers among U.S. adults in 2008. The chart shows that Mississippi has one of the lowest rates of binge-drinking in the country (≤ 11.9 %).

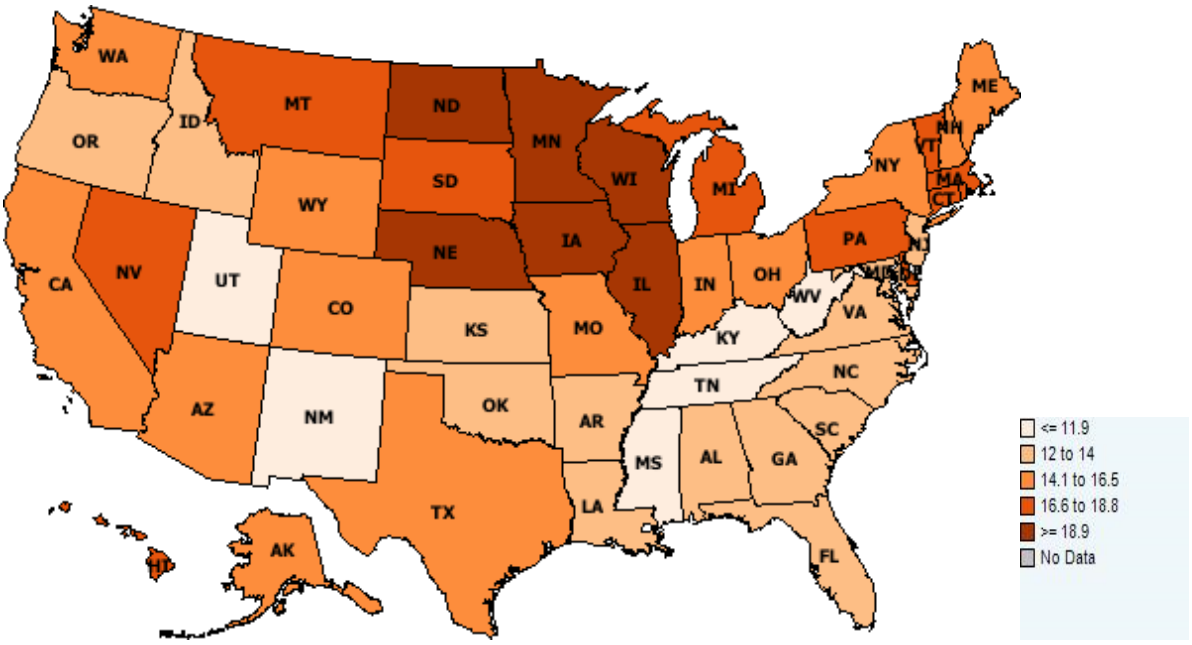



Figure 2.15: Percentage of binge drinkers (adults having ≥ 5 drinks on one occasion) in the U.S. in the year 2008. Source: BRFSS.

The table below depicts the percentage of heavy drinkers among black and white adult men (having > 2 drinks per day) and women (having > 1 drink per day) in Mississippi in 2003, 2004, 2008 and 2009. Heavy drinking was more frequent among blacks in 2003 but thereafter (2004 and 2008) it was higher among whites.

Table 2.6: Percentage of heavy drinkers among black and white adult males (i.e., having more than 2 drinks per day and adult women having more than 1 drink per day) in Mississippi in 2003-2009). Source: BRFSS, 2003-2009.

| HEAVY DRINKERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | | 2004 | | 2008 | | 2009 | |
| RACE | YES | NO | YES | NO | YES | NO | YES | NO |
| WHITE | 4.5 | 95.5 | 4.2 | 95.8 | 3.7 | 96.3 | 3.8 | 96.2 |
| BLACK | 5.1 | 94.9 | 2.2 | 97.8 | 3.5 | 96.5 | 1.9 | 98.1 |

Figure 2.16, below, shows the percentage of heavy drinkers nationwide (adult men having more than 2 drinks per day and adult women having more than 1 drink per day) in 2008. Percentages range from 3.9% to 6.5% or higher. Mississippi also has one of the lowest percentages of heavy drinkers (≤ 3.9%) in the country.

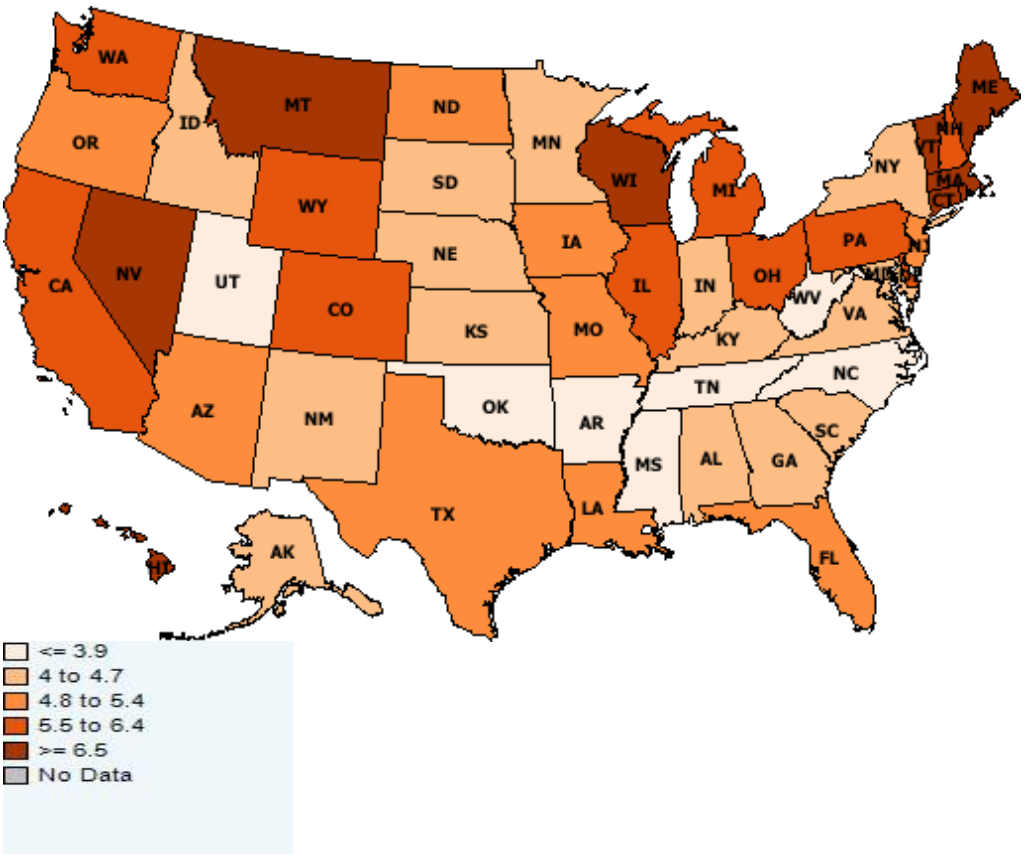



Figure 2.16: Percentage of adult heavy drinkers nationwide (adult men having more than 2 drinks per day and adult women having more than 1 drink per day) for the year 2008. Source: Behavioral Risk Factor Surveillance System Maps, 2008.

## Alcohol Use in Pregnancy

The chart below summarizes the indicators for adult use of alcohol related to pregnancy in Mississippi, along with the source of data.

| CONSUMPTION DATA<br>ADULT USE OF ALCOHOL: C. USE IN PREGNANCY | |
|---|---|
| **INDICATORS** | **DATA SOURCE** |
| • Consumption of alcoholic drinks during the 3 months before becoming pregnant (%) | Pregnancy Risk Assessment Monitoring System (PRAMS) |
| • Consumption of alcoholic drinks during the last 3 months of pregnancy (MS) (%) | PRAMS |

The figure below depicts the percentage of pregnant women in Mississippi who reported having any alcoholic drink during the 3 months before getting pregnant. The data show a slight increase between 2003 and 2006.

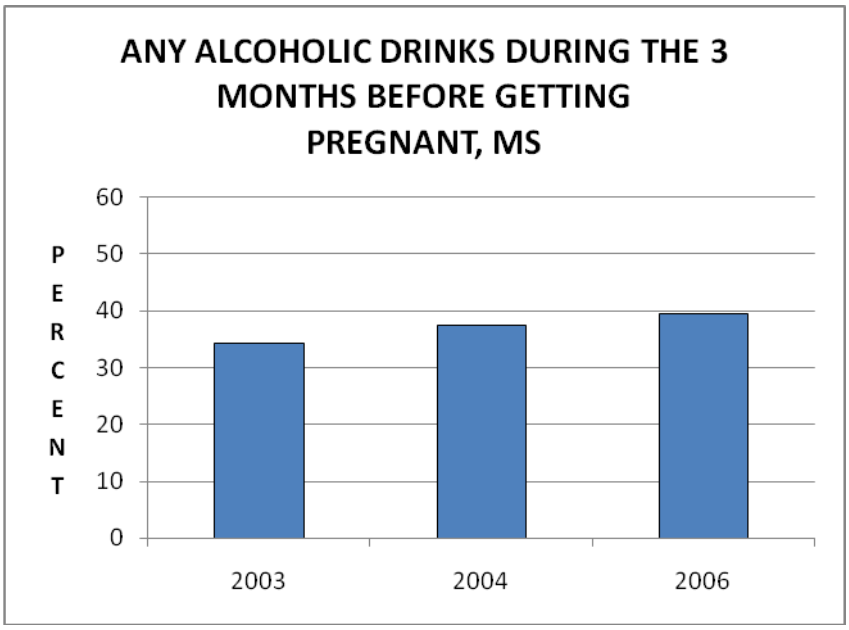



Figure 2.17a: Percentage of pregnant women having any alcoholic drink during the 3 months before becoming pregnant. Source: Pregnancy Related Alcoholic Risk Monitoring System 2003, 2004 and 2006.

The figure below depicts the percentage of pregnant women reporting having had any alcoholic drink during the last 3 months of pregnancy. The data show a slight increase from 2003 to 2004 and a slight decrease from 2004 to 2006.

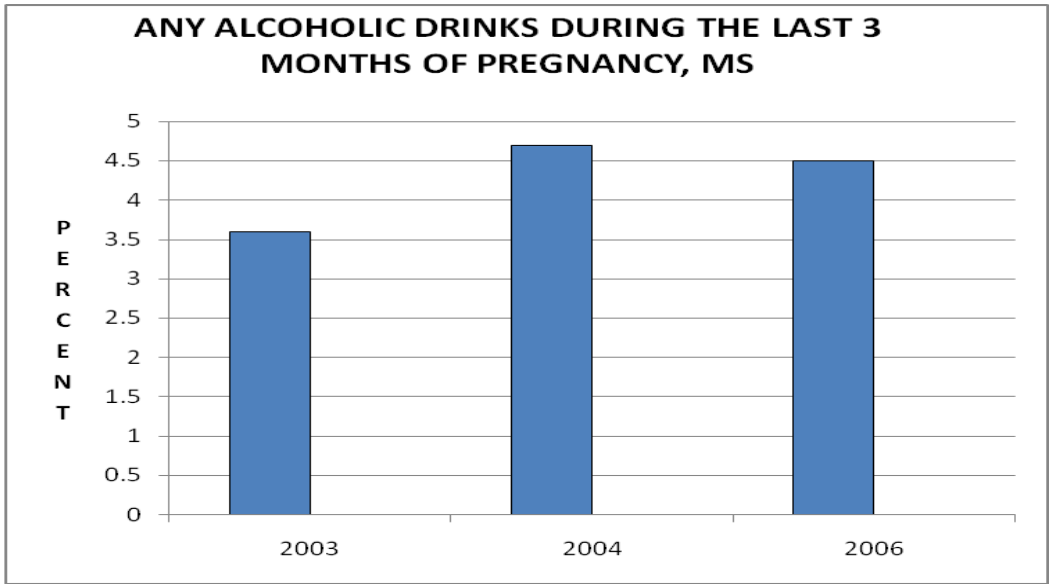



Figure 2.17b: Percentage of pregnant women reporting having any alcoholic drink during the last 3 months of pregnancy in Mississippi in the years 2003, 2004 and 2006. Source : Pregnancy Related Alcoholic Risk Monitoring System.

# 3. CONSEQUENCES

The *conceptual framework* we have developed for summarizing information on the adverse consequences of alcohol consumption begins with *concepts* and then further specifies them in terms of *variables* and *measurable indicators*. These concepts are Behavior, Morbidity (injury and illness), Mortality (fatal injury and illness), and Costs. Adverse consequences related to Behavior include High-Risk Behavior, School-Related, and Criminal Behavior; those related to Morbidity include data on non-fatal Injury, Chronic illness and Health Services Utilization; those related to Mortality include fatal Injury and Illness; and Costs, thus far, include data on underage drinking only.

| **ADVERSE CONSEQUENCES OF ALCOHOL CONSUMPTION** |
|---|
| **Behavior** |
| High risk |
| School related |
| Criminal behavior |
| |
| **Morbidity** |
| Non-fatal Injury |
| Non-fatal Illness |
| Health services utilization |
| |
| **Mortality** |
| Injury |
| Illness |
| |
| **Costs** |
| Underage drinking |

# BEHAVIOR

The chart below summarizes the adverse *behavioral* consequences of alcohol consumption (High Risk, School-Related, and Criminal Behavior) as well as the indicators and data sources for each one.

| CONSEQUENCES<br>BEHAVIOR | |
|---|---|
| **2. HIGH-RISK** | |
| **Indicators** | **Source** |
| • Students driving after drinking in past 30 days, 1995-2009 (%) (National/MS) | YRBSS |
| • Alcohol-related motor vehicle crashes (statewide and county level) | MS Dept. of Public Safety |
| **B. SCHOOL-RELATED** | |
| **Indicators** | **Source** |
| • Alcohol related school suspensions/ expulsions in all MS counties, 2009 (%) | MS Smart Track Survey |
| **C. CRIME** | |
| **Indicators** | **Source** |
| • Arrested for driving under the influence (DUI) adults, under age 21 all MS counties, 2008 , 2009 | MS Dept. of Public Safety |

## 2. High-Risk Behavior

*Drinking and Driving* Table 3.1 below depicts the percentage of students *who drove after drinking alcohol in the past 30 days* during the years 1995-2009, by location (national/state), gender and race (black, white). The table shows an overall decreasing trend over time. No clear difference can be seen between national and state rates. Rates for males are consistently higher than those for females. Rates for whites are higher than those of blacks.

Table 3.1: Percentage of students (9-12th graders) who drove after drinking alcohol in the past 30 days during the years 1995-2009. Source: Youth Risk Behavioral Surveillance System.

N=National S=State

| | | 1995 | | 1997 | | 1999 | | 2001 | | 2003 | | 2007 | | 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEX | RACE | N | S | N | S | N | S | N | S | N | S | N | S | N | S |
| TOTAL | TOTAL | 15.4 | 19.6 | 16.9 | 15.1 | 13.1 | 14.6 | 13.3 | 13.7 | 12.1 | 12.8 | 10.5 | 11.8 | 9.7 | 10.7 |
| | WHITE | 16.8 | 24.9 | 18.9 | 18.4 | 14.6 | 19.2 | 14.7 | 15.3 | 12.9 | 15 | 11.6 | 13.5 | 10.8 | 13.2 |
| | BLACK | 10.5 | 15.3 | 9.4 | 12.9 | 7.6 | 10.5 | 7.7 | 11.7 | 9.1 | 10.7 | 5.7 | 9.5 | 6.4 | 8.2 |
| FEMALE | TOTAL | 11.9 | 11.4 | 12.0 | 8.8 | 8.7 | 10.2 | 9.5 | 9.7 | 8.9 | 7.3 | 8.1 | 8.1 | 7.6 | 8.2 |
| | WHITE | 13.7 | 15.9 | 14.0 | 13.8 | 10.3 | 15.4 | 10.9 | 11.9 | 10.3 | 9.3 | 9.3 | 10.2 | 8.7 | 9.9 |
| | BLACK | 5.3 | 5.7 | 4.8 | 5.1 | 5.4 | 6.0 | 3.3 | 7.2 | 4.6 | 5.4 | 3.9 | 5.9 | 4.1 | 6.6 |
| MALE | TOTAL | 18.5 | 28.1 | 21.0 | 21.8 | 17.4 | 19.3 | 17.2 | 17.9 | 15.0 | 18.5 | 12.8 | 15.3 | 11.6 | 13.1 |
| | WHITE | 19.4 | 32.7 | 22.8 | 24.0 | 18.7 | 22.9 | 18.6 | 18.9 | 15.2 | 21.2 | 13.9 | 16.8 | 12.7 | 16.6 |
| | BLACK | 16.1 | 26.2 | 14.3 | 20.7 | 10.6 | 15.9 | 12.5 | 16.6 | 13.4 | 16.2 | 7.5 | 13.6 | 8.7 | 9.9 |

The figure below is a partial graphic representation of data in table 3.1, depicting the percentage of students (9-12th graders) who drove after drinking in the past 30 days (national/state). The data show a decreasing trend for both national and state rates.

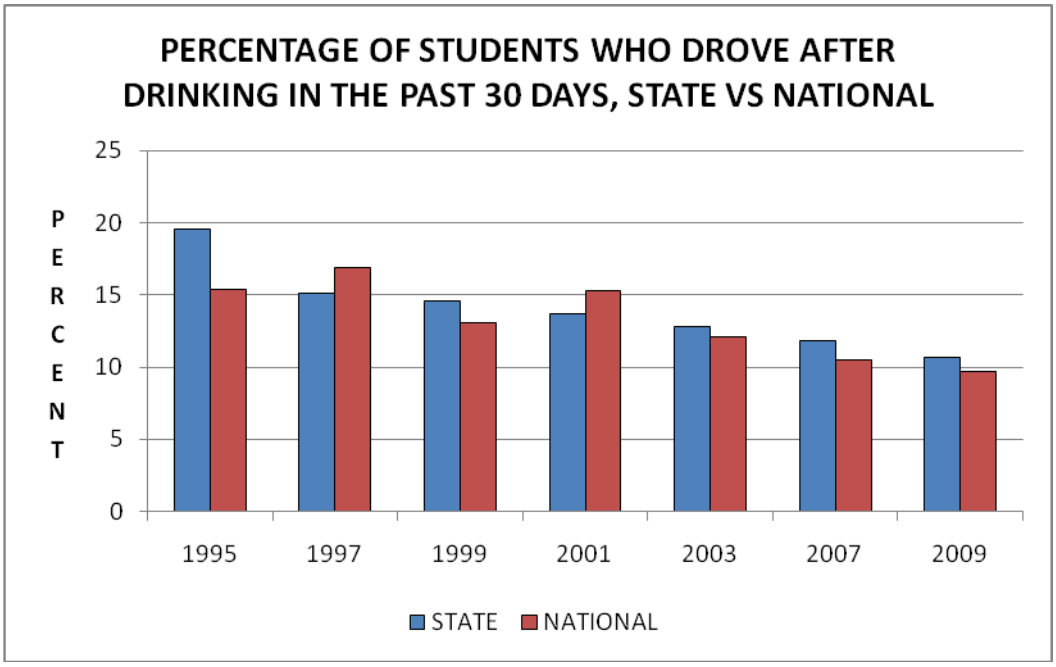



Figure 3.1: Percentage of students (9-12th graders) who drove after drinking in the past 30 days during the years 1995-2009. Source: Youth Risk Behavioral Surveillance System.

*Alcohol-Related Motor Vehicle Crashes (MVCs)* This category includes MVCs that neither involve injury nor death to occupants ("property damage" alone). The complete data on alcohol-related MVCs, nonfatal injuries, and deaths are shown in Appendix B. The counties in Mississippi with the highest numbers of alcohol-related MVCs in 2007 and 2008 involving adult drivers and drivers under age 21 are shown in Table 3.2, below.

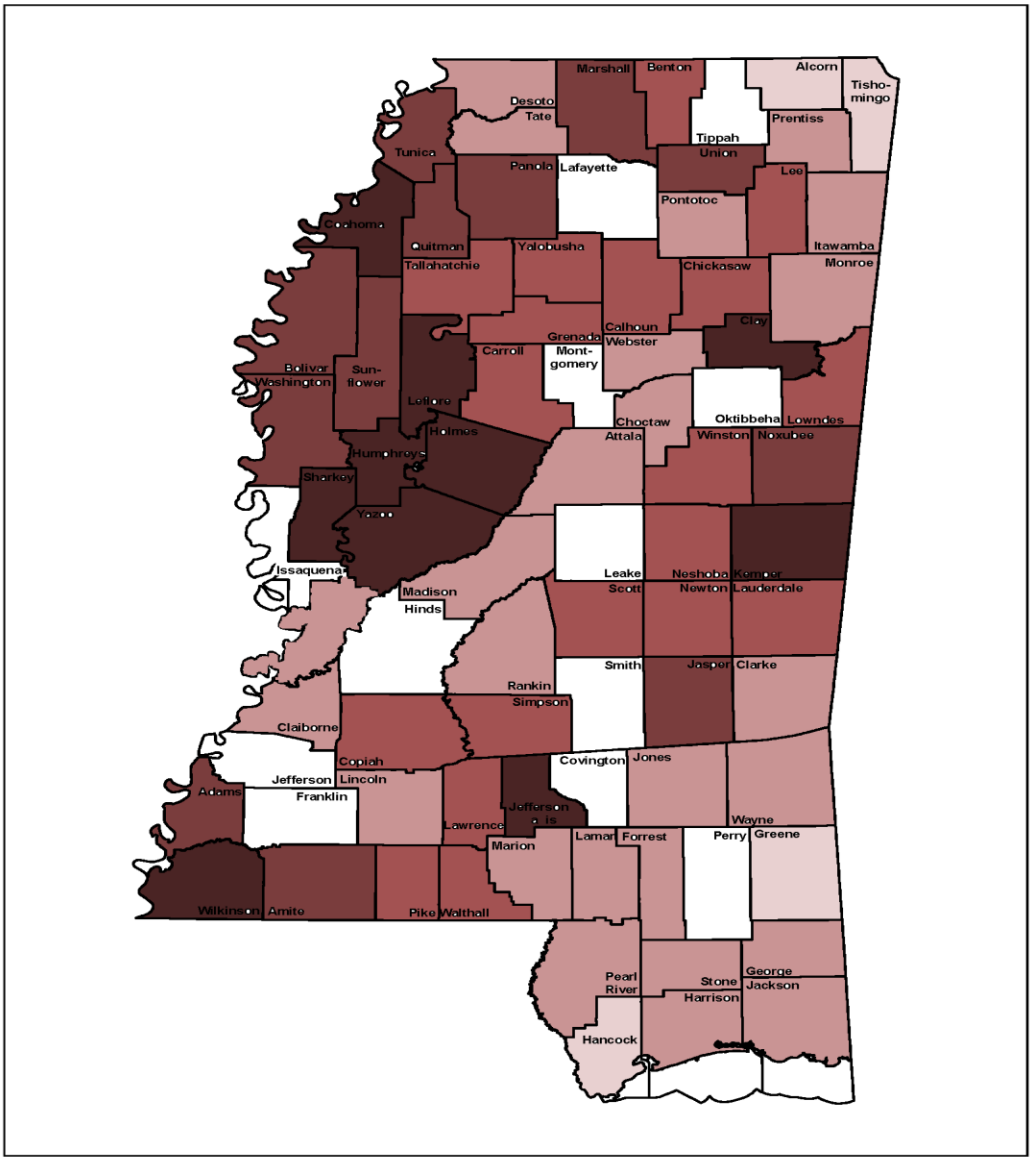
Table 3.2: Alcohol-related motor vehicle crashes (ARCs) in 2007 and 2008 involving adult drivers and those < age 21.

| Counties with highest rankings | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2007 | | | | 2008 | | | |
| ARC Rate Per 10,000 | | Proportion of ARC U21 | | ARC Rate Per 10,000 | | Proportion of ARC U21 | |
| County | Rate | County | Rate | County | Rate | County | Rate |
| Tunica | 54.19 | Sharkey | 50.0 | Tunica | 62.86 | Winston | 60 |
| Harrison | 30.22 | Wilkinson | 50.0 | Lafayette | 31.76 | Attala | 51.3 |
| Lafayette | 29.94 | Tishomingo | 43.75 | Stone | 28.63 | Lafayette | 38.2 |
| Forrest | 27.82 | Smith | 41.7 | Forrest | 28.09 | Montgomery | 36.64 |
| Hancock | 26.76 | Pontotoc | 37.9 | Jackson | 27.47 | Newton | 35.3 |
| Desoto | 26.59 | Perry | 36.4 | Hancock | 25.13 | Franklin | 33.3 |
| Jackson | 25.11 | Union | 34.4 | Harrison | 24.89 | Prentiss | 30.0 |
| Grenada | 24.50 | Choctaw | 33.3 | Alcorn | 24.89 | Smith | 30.0 |
| Panola | 22.17 | Franklin | 33.3 | Pike | 24.39 | Itawamba | 29.6 |
| Lowndes | 21.59 | Jefferson Davis | 33.3 | Desoto | 22.76 | | |

* Source: MS Department of Public Safety (*)

## B. School-Related

*School Suspensions* Figure 3.2, below, depicts percentages of alcohol-related school suspensions and expulsions among 6th to 11th graders in all Mississippi counties i.e., (not all suspensions-only those related to alcohol). The numbers vary widely from a range of 3.5% to 7.5% and 19.6% to 23.5%.

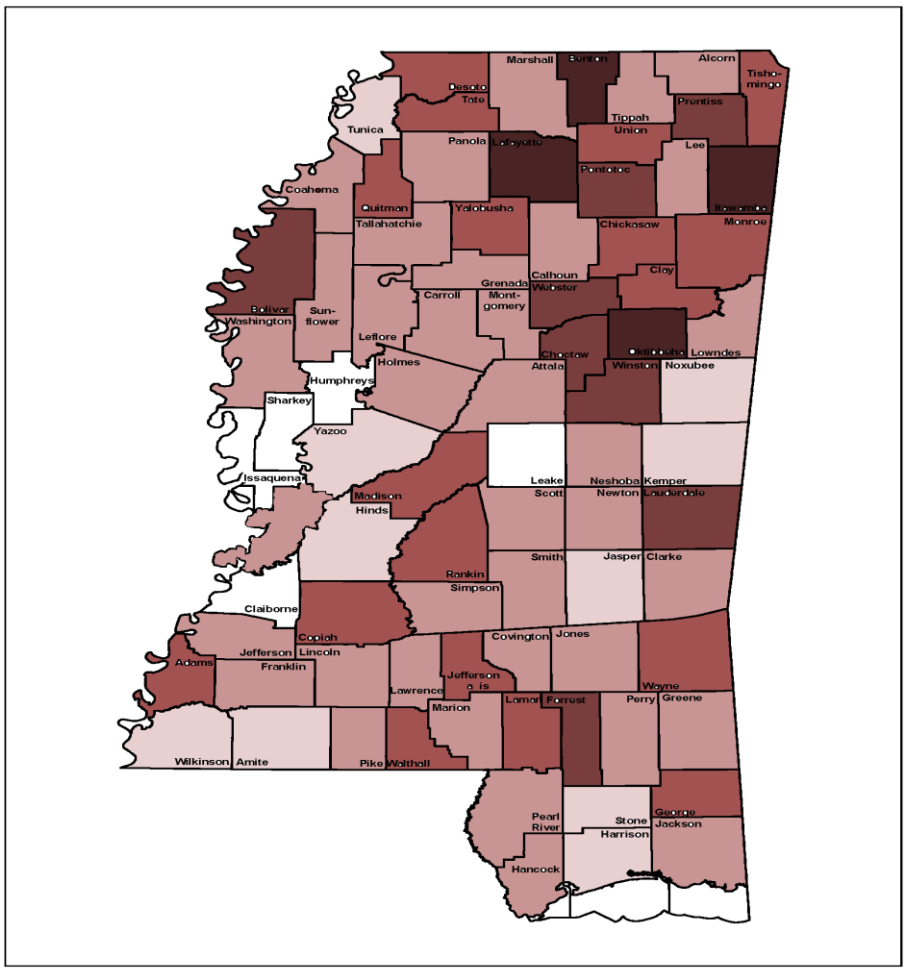



| | |
|---|---|
| | 3.5-7.5 |
| | 7.6-11.5 |
| | 11.6-15.5 |
| | 15.6-19.5 |
| | 19.6-23.5 |
| | no data |

Fig 3.2: Percentages of alcohol-related school suspensions and expulsions among 6th to 11th graders in all Mississippi counties. Source: Mississippi SmartTrack Survey, 2008.

## 2. Criminal Behavior

*Driving Under the Influence (DUI) of Alcohol* Figure 3.3 below depicts the percentage of DUI arrestees who were under age 21 in all counties of Mississippi in 2006. The numbers vary widely, from 2.0% in Noxubee County to 28.8% in Lafayette County. Noxubee County had the lowest percentage of DUI arrestees under age 21 while Lafayette County had the highest.



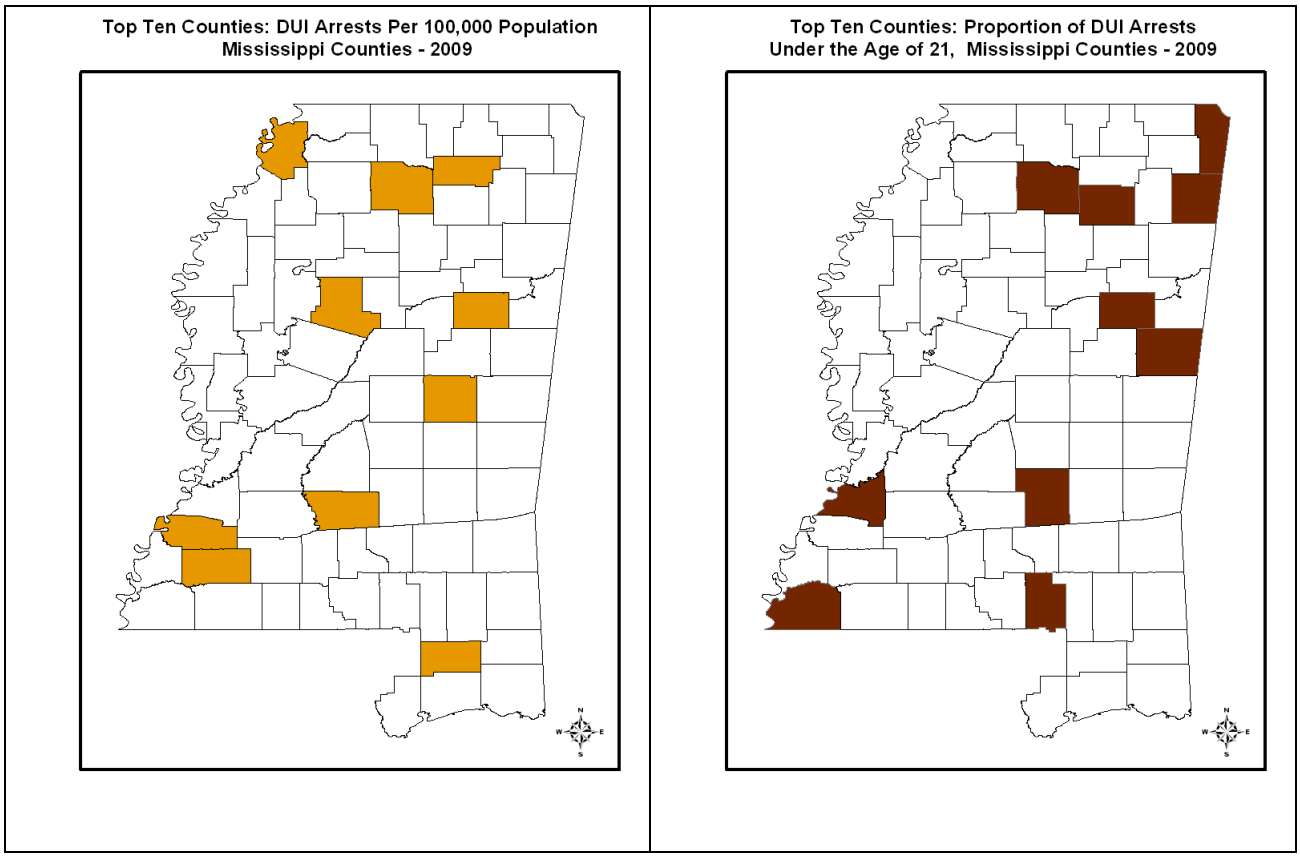

| | |
|---|---|
| | 2.0-7.4 |
| | 7.5-11.4 |
| | 11.5-15.2 |
| | 15.3-18.0 |
| | 18.1-28.8 |
| | no data |

Figure 3.3: Percentage of DUI arrestees in Mississippi counties who were under age 21. Source: MS Department of Public Safety, 2006.

Table 3.3, below, depicts the counties with the highest numbers of adults and persons under age 21 who were arrested for DUI in 2009.

| Table 3.3 Mississippi counties with the highest numbers of adults and persons under age 21 who were arrested for alcohol related DUI in 2009. | | | |
|---|---|---|---|
| **Proportion of DUI < 21** | | **DUI Rate Per 10,000** | |
| **County** | **%** | **County** | **Rate** |
| Oktibbeha | 21.7 | Tunica | 394.49 |
| Claiborne | 17.6 | Stone | 184.99 |
| Itawamba | 17.2 | Jefferson | 176.59 |
| Lafayette | 16.9 | Carroll | 156.93 |
| Lamar | 15.9 | Neshoba | 155.86 |
| Tishomingo | 14.9 | Lafayette | 155.40 |
| Pontotoc | 14.3 | Simpson | 150.51 |
| Smith | 14.1 | Oktibbeha | 137.29 |
| Noxubee | 12.5 | Union | 128.54 |
| Wilkinson | 12.5 | Franklin | 127.84 |

**2.** Source: MS Department of Public Safety (*)




Source: Plotted using data from MS Department of Public Safety

# MORBIDITY

The chart below summarizes the sub-categories under Morbidity (i.e., non-fatal Injury, Illness and Health Services Utilization), along with the indicators and sources for each one.

| CONSEQUENCES DATA: MORBIDITY | |
|---|---|
| **A. NON-FATAL INJURY** | |
| **Indicators** | **Source** |
| • Alcohol-related MVC-related nonfatal injuries by county (adults and < age 21), 2007, 2008. | MS Dept of Public Safety |
| • Attempted suicide ≥ 1 times during the past 12 months (National/MS), 1995-2009. | YRBSS |
| **B. NON-FATAL ILLNESS** | |
| **Indicators** | **Source** |
| • Cirrhosis, Cancers | Data will be available from the MS State Dept. of Health after 11/2010 |
| **C. HEALTH SERVICES UTILIZATION** | |
| **Indicators** | **Source** |
| • Substance abuse treatment admissions for 1) alcohol as the primary substance of abuse and 2) alcohol use with a secondary drug of abuse, MS, 2005-2008. | Substance Abuse and Mental Health Services Administration (SAMSHA) |

## A. Non-Fatal Injury

*Alcohol-related nonfatal traffic crash injuries* The tables below show the counties with the highest rates (per 10,000 population in the county) of alcohol-related nonfatal MVC injuries among adults and persons under age 21 in 2008.

Table 3.4 Mississippi counties with the highest rates per 10,000 population of alcohol-related non-fatal MVCs among adults and persons under age 21 years 2008 (Source: MS Dept of Public Safety).

| Table 3.4 Mississippi counties with the highest rates per 10,000 population of alcohol-related non-fatal MVCs among adults and persons under age 21 years | | | |
|---|---|---|---|
| **2008** | | | |
| **Adult Drivers** | | **< 21 yr Drivers** | |
| County | Rate, number | County | Rate, number |
| Tunica | 30.3 (28) | Attala | 9.2 (18) |
| Stone | 14.0 (19) | Winston | 6.0 (12) |
| Yalobusha | 13.8 (18) | Lafayette | 5.0 (19) |
| Hancock | 11.6 (50) | Alcorn | 4.6 (16) |
| Alcorn | 11.6 (40) | Yalobusha | 3.8 (5) |

*Suicide attempts* The figure below depicts the percentage of attempted suicides by high school students (9-12$^{th}$ graders) during the past 12 months (nationwide and statewide) during the years 1995 to 2009. Adolescent suicide rates in Mississippi where on a steady decline from 1995 to 2001, however rates began to increase from 2003 to 2009, surpassing national rates beginning 2007 and in 2009. It is a concern that 9.3% of high school students in Mississippi reported one or more attempts at suicide in 2009, compared to the national average of 6.3%.

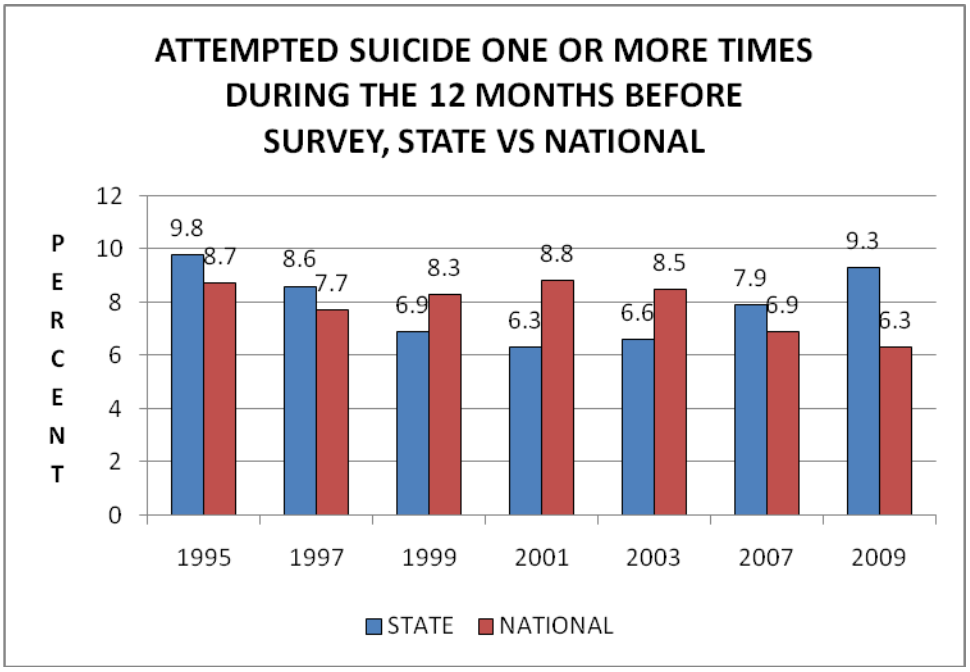



Figure 3.4 Percentage of MS and U.S. 9-12th graders who attempted suicide (one or more times during the 12 months before the survey) during the years 1995 to 2009. Source: Youth Risk Behavior Surveillance System (YRBSS).

## B. Non fatal Illness

Chronic illness related to alcohol consumption, based on hospital discharge data,will be available from the MS State Departmentof Health after November, 2010 (Joseph Surkin, MS Department of Health, Personal Communication, May 28, 2010).

## C. Health Services Utilization

*Substance abuse treatment admissions* Figure 3.5, below, depicts the number of admissions for 1) alcohol as the primary substance of abuse and 2) alcohol use with a second drug of abuse, from 2005-2008. The data show a gradual decrease in the number of admissions during the years 2005-2008. Numbers of admissions for alcohol only are highest in the age group 46-50 years, whereas those for alcohol with a second drug of abuse are highest among persons ages 26-30 in 2008.

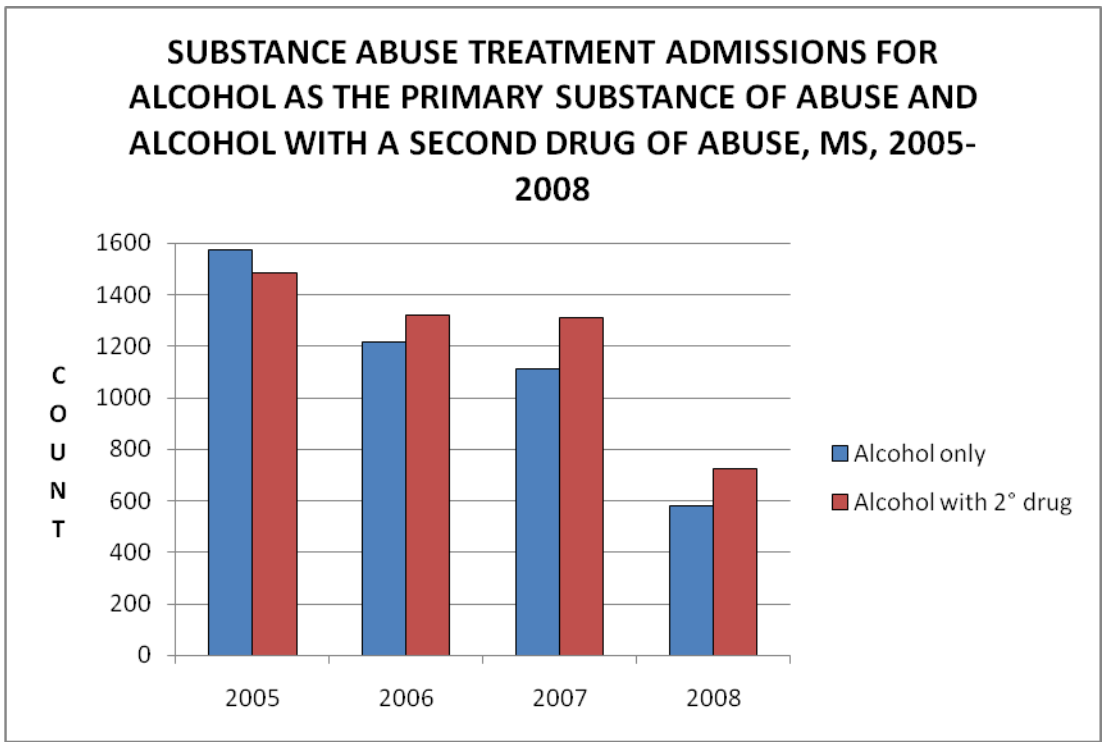



Figure 3.5: Number of substance abuse treatment admissions for alcohol as the primary substance of abuse and alcohol with a second drug of abuse. Source: Office of Applied Studies, Substance Abuse and Mental health Services Administration, Treatment Episode Data Set (TEDS). (http://www.oas.samhsa.gov/dasis.htm#teds2)

# MORTALITY

The chart below summarizes data on the fatal consequences of alcohol consumption in terms of Injury and Illness, with data sources and indicators.

| CONSEQUENCES DATA<br><br>MORTALITY | |
|---|---|
| **A. FATAL INJURY** | |
| **Indicators** | **Source** |
| • Motor Vehicle Crash fatalities (MVC's) by county for adults and persons under age 21 during 2007, 2008. | MS Dept. of Public Safety |
| **B. FATAL ILLNESS** | |
| **Indicators** | **Source** |
| • Alcohol related deaths i.e., cirrhosis of the liver and chronic liver disease (MS) | MS Dept of Health, Division of Vital Statistics. |

## 2. Fatal Injury

*Alcohol-related fatal MVC injuries* Table 3.5 summarizes alcohol-related fatal traffic crash injuries per 10,000 population in 2008 and 2009, by county. The data show that Itawamba County had the highest number of fatal traffic crash injuries per 10,000 population in 2008 and Humphreys county for 2009.

Table 3.5 Counties with highest Alcohol-related fatal motor vehicle crashes per 10,000 population

| **2008** | | **2009** | |
|---|---|---|---|
| County | Fatalities per 10,000 population | County | Fatalities per 10,000 population |
| Itawamba | 30.3 | Humphreys | 30.6 |
| Wayne | 28.8 | Yalobusha | 29.0 |
| Tunica | 28.5 | Tishomingo | 26.3 |
| Scott | 27.3 | Tate | 25.6 |
| Hancock | 27.2 | Covington | 24.3 |

Source: U.S. Department of Transportation, National Highway Traffic Safety Administration.

Figure 3.6, below, depicts trends in the frequency of alcohol impaired driving fatalities among Mississippi residents during the years 2004-2008. The data show a slight decrease during the period.

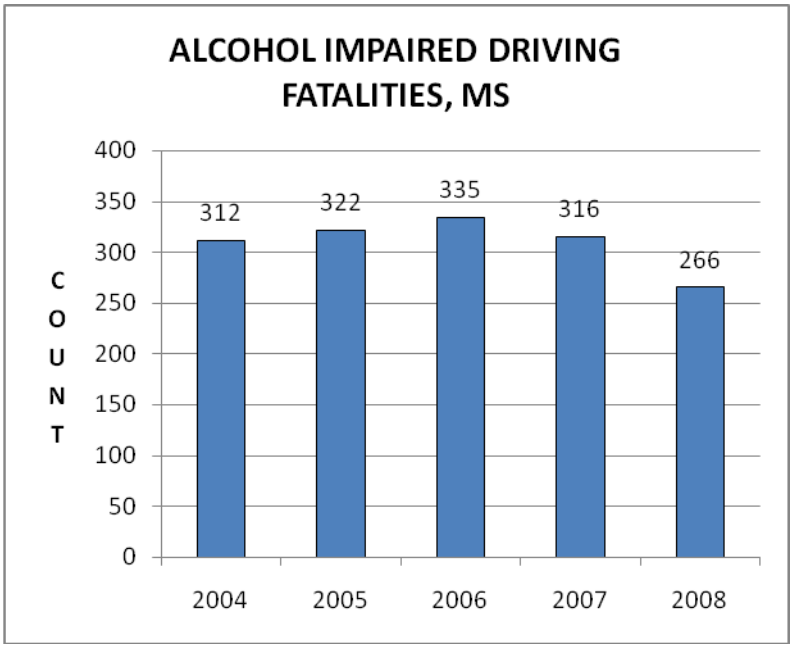



Figure 3.6, Frequency of alcohol impaired driving fatalities in Mississippi from 2004-2008. Source: US Department of Transportation.

Figure 3.7 below depicts alcohol-impaired driving fatalities per 100 Million vehicle miles traveled (VMT) for 2004-2008 in the United States and in Mississippi. The data show a decreasing trend during these years for both the U.S and Mississippi, and suggest that MS rates are consistently twice as high as those of the U.S as a whole.

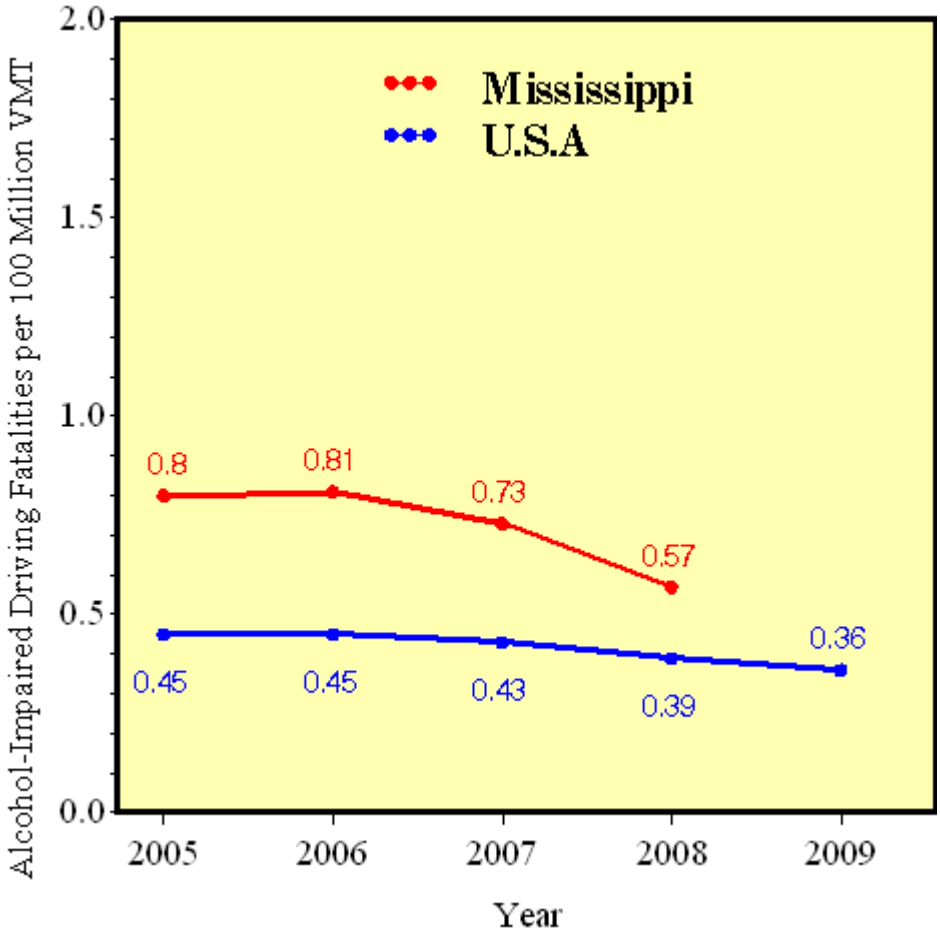



Figure 3.7: Alcohol impaired driving fatalities per 100 million VMT during the years 2004-2009 in the United States and in Mississippi. Source: MS National Highway Traffic Safety Administration.

Figure 3.8 below shows the Fatalities in Crashes involving an Alcohol-Impaired Driver (BAC = .08+) per 100,000 Population.

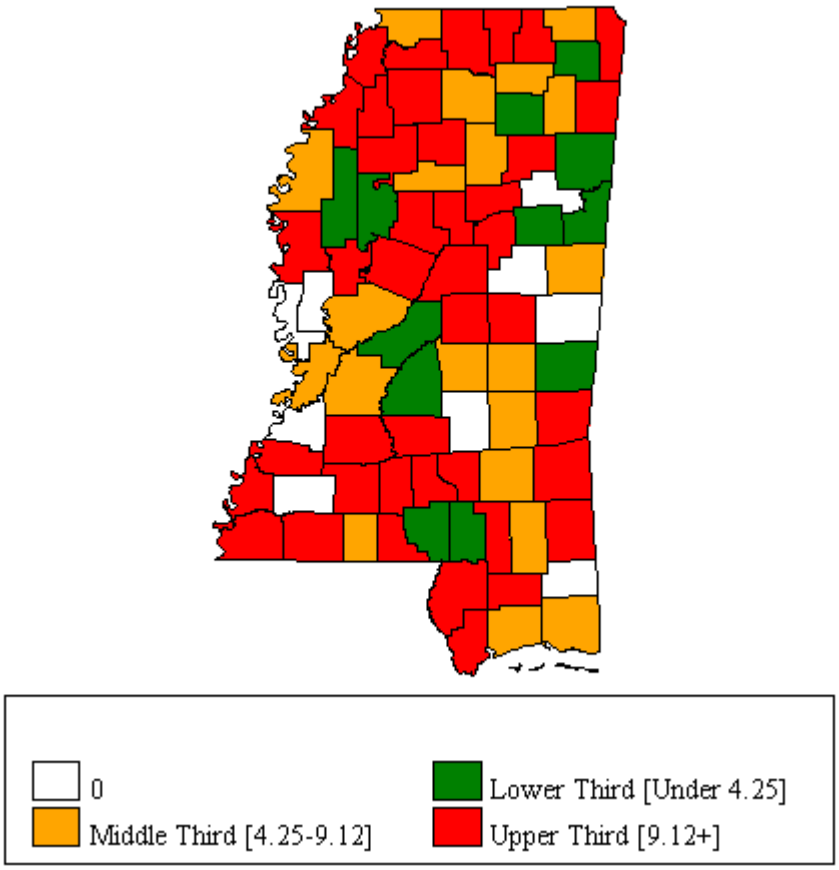
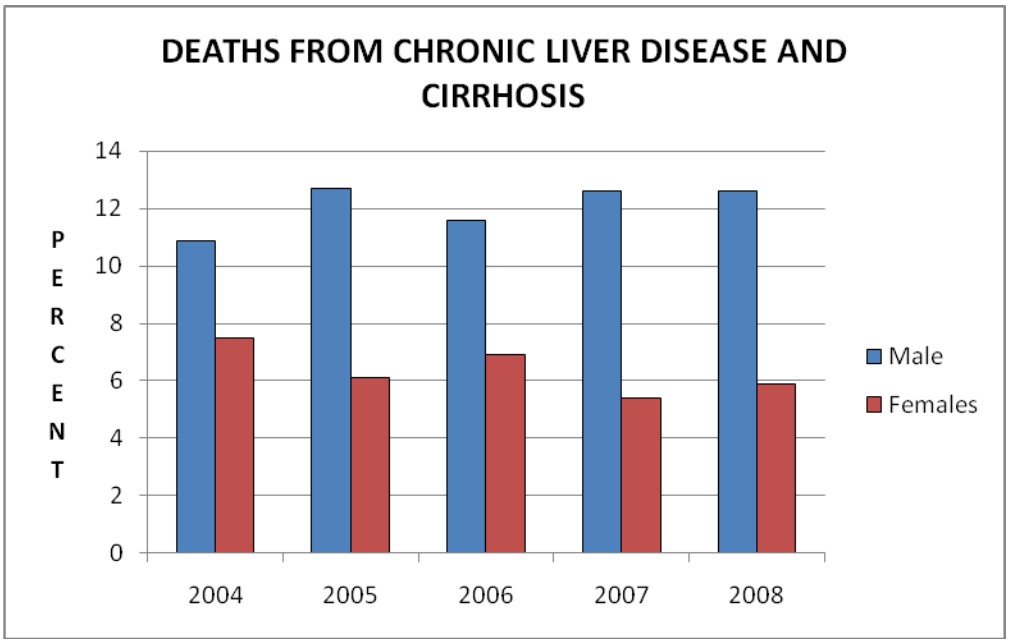



Figure 3.8: Fatalities in Crashes involving an Alcohol-Impaired Driver (BAC = .08+) per 100,000 Population. Source: NHTSA FARS.

## B. Fatal Illness

*Deaths from diseases associated with chronic alcohol consumption* Figure 3.9 below, depicts deaths from chronic liver disease and cirrhosis as a percentage of all deaths from chronic illness related to alcohol consumption in 2004-2008. These diseases include esophageal cancer, digestive organ cancer, liver cancer, oral cancer, and chronic liver disease/cirrhosis. Mortality categories in which alcohol could have been a contributing factor to death were collapsed to calculate the percentages. Deaths from chronic liver disease and cirrhosis were consistently higher among males than females during the years 2004-2008. No discernible trend was noted for the state as a whole.

Figure 3.9: Deaths from chronic liver disease and cirrhosis as a percentage of all deaths from chronic illness related to alcohol consumption, by gender, for 2004-2008.




Source: Mississippi State Department of Health, Division of Vital Statistics.

The table below (Table 3.6) shows the actual number of deaths from alcoholic liver diseases among Mississippi residents during the years 2005-2009.

Table 3.6 Number of deaths from alcoholic liver diseases among Mississippi residents during the years 2005-2008

| **Deaths from alcoholic liver diseases** | | | |
|---|---|---|---|
| **Year** | **Total** | **White** | **Non-White** |
| **2005** | 90 | 56 | 34 |
| **2006** | 95 | 65 | 30 |
| **2007** | 92 | 65 | 27 |
| **2008** | 89 | 66 | 23 |

Source: MS State Department of Health, Division of Vital Statistics.

# COSTS OF UNDERAGE DRINKING

Table 3.7, below, itemizes the costs (in millions $) related to underage drinking in Mississippi for the year 2007. Youth violence ranks highest among the different costs associated with underage drinking ($297.4 millions) whereas youth alcohol treatment ranks lowest ($37.6 millions).

Table 3.7 Costs of the underage drinking problem, Mississippi 2007

| **Table 3.7 Costs of underage drinking by problem, Mississippi 2007** | |
|---|---|
| **Problem** | **Total Costs (in millions)** |
| Youth Violence | $297.4 |
| Youth Traffic Crashes | $106.9 |
| High-Risk Sex, Ages 14-20 | $49.9 |
| Youth Property Crime | $27.4 |
| Youth Injury | $16.9 |
| Poisonings and Psychoses | $2.5 |
| FAS Among Mothers Ages 15-20 | $13.3 |
| Youth Alcohol Treatment | $37.6 |
| Total | $551.9 |

(Source: Pacific Institute for Research and Evaluation with funding from the Office of Juvenile justice and Delinquency Prevention, November 2009; see Appendix B for a description of the data sources and methods for computing the cost estimates).

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| **3.6** Frequency of alcohol impaired driving fatalities in Mississippi from 2004-2008. |
| **3.7** Alcohol impaired driving fatalities per 100 million VMT during the years 2004-2008, U.S. and Mississippi. |
| **3.8** Percentages of alcohol-related MVC fatalities among the counties of Mississippi, 2006. |
| **3.9** Deaths from chronic liver disease and cirrhosis as a percentage of all deaths from chronic illness related to alcohol consumption, by gender, for 2004-2008. |

## Appendix B

### METHODOLOGY: UNDERAGE DRINKING PROBLEM – DEFINITIONS (Adapted from: Pacific Institute for Research and Evaluation)

Youth Violence: Alcohol-attributable murders, rapes, robberies, other assaults, and child abuse and neglect perpetrated by youth under age 21.

Youth Traffic Crashes: Alcohol-attributable deaths and nonfatal injuries resulting from crashes involving drivers under age 21 with positive blood alcohol levels.

High-Risk Sex: Alcohol-attributable unplanned pregnancies, HIV/AIDS and other sexually transmitted diseases due to unprotected sex or use of unreliable birth control method among youth ages 14-20.

Youth Property Crime: Alcohol-attributable burglaries, larcenies, and motor vehicle thefts committed by youth under age 21.

Youth Injury: Alcohol-attributable burn, drowning, and suicide deaths and nonfatal suicide attempts among youth under 21.

Poisonings and Psychoses: Fatal and nonfatal alcohol poisonings and psychoses among youth under age 21.

Fetal Alcohol Syndrome (FAS) among Teen Mothers: Fetal Alcohol Syndrome births to mothers aged 15-20.

Youth Alcohol Treatment: Treatment for alcohol dependence syndrome including detoxification for youth under age 21.

### Cost Methodology

For each alcohol-related problem – traffic crashes, violence, property crime, suicide, burns, drowning, fetal alcohol syndrome, high-risk sex, poisonings and psychoses, and dependency treatment – fatal and nonfatal cases attributable to underage alcohol use were estimated. Costs were limited to alcohol-related problems that could be directly tied to immediate or acute alcohol use in order to develop conservative estimates. For each problem, measures of fatal and nonfatal cases involving underage drinking were first obtained. The percent of *alcohol involved* cases actually *attributable* to or caused by alcohol use was then estimated. The number of alcohol-attributable cases was multiplied by the costs per case to obtain total costs. Three types of costs were estimated. All costs were converted to 2001 dollars using a health expenditures index for medical costs, a wage index for wage loss, and the consumer price index for other items.

Medical Costs: Medical costs include payments for hospital, physician, and allied health

services, rehabilitation, prescriptions, medical equipment, nursing home, insurance claims processing, and emergency medical transport.

Fatality costs include medical examiner/coroner services.

Violence costs include mental health treatment for victims.

Costs for alcohol treatment are included only under that category of Youth Alcohol Treatment.

Work Loss and Other Costs: Work loss costs are wage and household work losses during the acute recovery from injury, plus the present value of a lifetime's worth of wage and household work that youth and those they injure will be unable to do if they are killed or permanently disabled. The earnings include fringe benefits. This category also includes insurer and employer costs of compensating earnings losses (including their legal expenses). For violence, this category also includes earnings lost by family and friends caring for the injured and the value of school missed when children are temporarily disabled. Other costs include the costs of police and fire services, sanctioning and adjudicating crimes, foster care and property damage.

Pain and Suffering Costs: Quality of life places a dollar value on the pain, suffering, and lost quality of life losses that substance users, their victims and their families experience due to illness, injury, and death. To value quality of life lost to fatal injuries, PIRE estimat**es** the value people place on survival. For fatalities, the value of pain, suffering, and lost quality of life is computed based on what people actually and routinely pay for small reductions in their chance of being killed. A review of an extensive literature containing more than 65 sound studies estimate the value of a statistical life in 2000 as at least $3.5 million U.S. dollars. The quality of life lost to nonfatal injury was valued in four steps. First, physician ratings of the functional capacity typically lost over time by victims of every injury diagnosis cataloged in a common diagnosis system were obtained. The ratings cover six dimensions of functioning: bending/grasping/lifting, cognitive, mobility, sensory, cosmetic, and pain. Second, data were added about the probability of permanent work-related disability by diagnosis. Third, using surveys about the value people place on different dimensions of functioning, we combined the data to obtain a percentage of the value of survival lost to each injury. Fourth, we subtracted lost future earnings to get the pain and quality of life costs per injury.

State Costs -- We used several methods to break the national estimates down by state. Youth impaired driving costs by state were computed by multiplying the state impaired driving costs by the percentage of impaired driving deaths in the state that involved an alcohol-impaired driver or non-occupant under age 21.

National estimates of nonfatal suicide, burn, and drowning incidents were allocated among states in proportion to youth fatalities from these causes.

Youth alcohol treatment counts by state came from the Treatment Episode Data Set (TEDS).

All other costs were allocated using estimates of the percentage of youth who drank alcohol in the past 30 days by state, the percentage of underage binge drinkers by state, or a youth alcohol intensity index constructed by dividing the percentage of youth who were binge drinkers in the state by the mean percentage for the US. For almost all states, this consumption data came from the state's Youth Risk Behavior Survey (YRBS) or a student survey containing the YRBS questions. The specific source for the consumption data is noted in each state fact sheet.

Alcohol-involved crime costs were allocated between states in proportion to the number of crimes reported in the Uniform Crime Reports by state. The percentage of crimes involving alcohol nationally was tailored to the state level by multiplying by the youth alcohol intensity index.

Alcohol-attributable high-risk sex and fetal alcohol syndrome were allocated between states in proportion to the ratio of the teen pregnancy rate in the state to the national teen pregnancy rate times the number of underage drinkers in the state times the youth drinking intensity index.

Alcohol poisoning, and alcohol psychoses were allocated between states in proportion to the number of underage drinkers in the state times the youth drinking intensity index.

We used state-specific price adjusters to convert from US to state prices. We adjusted work loss based on per capita income by state and used ACCRA medical care and all items price indices (from the US Statistical Abstract) for other items.

Number of Youth Drinkers -- We multiplied the percentage of youth who report drinking in the state by the 2001 state population estimates for ages 14-20 to estimate the number of underage drinkers.

Sales of Alcohol Consumed by Underage Youth -- To calculate the sales of alcohol consumed by underage youth, we start with the drinks of alcohol consumed monthly per underage drinker from the National Household Survey on Drug Abuse (NHSDA). The NHSDA is known to underestimate underage drinking so we adjust the NHSDA**,** drinker estimate for youth**,** using data from the YRBS, Monitoring the Future, and the Health Behaviors of School Children Survey (HBSC). We then multiply the average number of drinks per drinker (also from the NHSDA) by the number of drinkers to get total consumption by underage drinkers. We add that to total adult consumption estimated from the NHSDA data and then compute the percentage of alcohol consumed by underage youth. Lastly, we multiply the percentage of alcohol consumed by underage youth in each state by the total amount of alcohol consumed by all ages in that state to arrive at the total amount of alcohol consumed by underage drinkers (Reference 1).

1**.** Nephew TM, Williams GD, Yi H-y, Hoy AK, Stinson FS, Dufour MC (August 2003). Apparent per capita alcohol consumption: National, state and regional trends, 1977-2000. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism. Surveillance Report # 62.

**Appendix C**

## Evidence based Recommendations

| **Quality of evidence on the effectiveness of alcohol policies:**<br><br>**A. Convincing Evidence** | |
|---|---|
| **Evidence of action that reduces alcohol related harm** | **Evidence of action that does *not* reduce alcohol related harm** |
| • Alcohol taxes | • School based education and information |
| • Government monopolies for retail sale | |
| • Restrictions on outlet density | |
| • Restrictions on days and hours of sale | |
| • Minimum purchase age | |
| • Lower legal values of BAC for driving | |
| • Random breath testing | |
| • Brief advice programs | |
| • Treatment of alcohol use disorders | |

| Quality of evidence of the effectiveness of alcohol policies: B. Probable Evidence | |
|---|---|
| **Evidence of action that reduces alcohol related harm** | **Evidence of action that does *not* reduce alcohol related harm** |
| • A minimum price per gram of alcohol | • Lower taxes to manage cross border trade |
| • Restrictions on the volume of commercial communications | • Training of alcohol servers |
| • Enforcement of restrictions of sale to intoxicated or underage people | • Designated driver campaigns |
| | • Consumer labeling and warning messages |
| | • Public education campaigns |

| Quality of evidence of the effectiveness of alcohol policies: C. Limited/Suggestive | |
|---|---|
| **Evidence of action that reduces alcohol related harm** | **Evidence of action that does *not* reduce alcohol related harm** |
| • Suspension of driving licenses | • Campaigns funded by the alcohol industry |
| • Alcohol locks | |
| • Workplace programs | |
| • Community based programs | |

Source: Groves T. Preventing alcohol related harm to health. BMJ 2010; 361-2.

**Appendix D**

# National Surveys that Collect Information about Alcohol Consumption

CDC-Sponsored Surveys

- Behavioral Risk Factor Surveillance System (BRFSS)
  World's largest telephone survey that tracks health behaviors, chronic diseases, and preventive health practices among non-institutionalized adults in the United States. It collects data on current drinking; the number of drinking days; average number of drinks per occasion; maximum number of drinks consumed per drinking occasion; and frequency of binge drinking.

- Youth Risk Behavior Survey (YRBS)
  Monitors six categories of priority health-risk behaviors among high school youth at the national, state, and local levels. This biennial survey specifically collects data on age at first drink of alcohol, frequency of drinking, frequency of binge drinking, drinking on school property, and drinking associated with other behaviors, such as driving and sexual activity.

- National Health Interview Survey (NHIS)
  Multi-purpose health survey that monitors the health of the non-institutionalized adults and children in the United States. This survey collects information on a broad range of health topics, including current alcohol use and binge drinking among adults.

- National Health and Nutrition Examination Survey (NHANES)
  Collects health and nutrition data through interviews and health examinations of the civilian, non-institutionalized U.S. population. The survey specifically collects information on age of first drink, lifetime alcohol use, current alcohol use, and binge drinking.

- Pregnancy Risk Assessment Monitoring System (PRAMS)
  Survey collects state-specific, population-based data on maternal attitudes and experiences among women two to six months after having a live birth. This survey collects information on alcohol consumption before, during, and shortly after pregnancy.

- Pregnancy Nutrition Surveillance System (PNSS)
  Monitors risk factors associated with infant mortality and poor birth outcomes among low-income pregnant women participating in federally funded public health programs. This survey collects data on current alcohol use before and during pregnancy.

Other National Surveys

- National Survey on Drug Use and Health (formerly the National Household Survey on Drug Abuse)
  In-home survey that gathers information on mental health and substance abuse, from non-institutionalized persons aged 12 years and older. Collects data on the use of alcohol and illicit drugs, as well as symptoms of substance abuse or dependence.

- National Longitudinal Alcohol Epidemiologic Survey (NLAES)
  Collects longitudinal data on the prevalence of alcohol abuse and dependence associated with disabilities. Data collected include detailed measures of alcohol consumption, patterns of use, and consequences of alcohol use.

- National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)
  Longitudinal survey of alcohol use disorders and associated disabilities among the non-institutionalized household adults, 18 years and older residing in the United States. The survey assesses alcohol use disorders and disabilities in the general population and provides information related to treatment.

- Monitoring the Future Survey*
  Ongoing and long-term system that collects data on the behaviors, attitudes, and values regarding substance use of American adolescents, college students, and adults. Each year a total of approximately 50,000 students in 8th, 10th, and 12th grade are surveyed about substance use, including alcohol consumption, and a subset are sent follow-up questionnaires through age 45 years.

- National Alcohol Survey*
  Series of national surveys that collect information on a variety of alcohol issues including drinking practices, problems, attitudes, and community response. The survey is usually conducted every five years.

- Alcohol Epidemiologic Data Directory* (PDF–400K)
  List of national and special population surveys and data sets available for epidemiologic analysis of alcohol consumption.

Page last reviewed: August 6, 2008
Page last modified: August 6, 2008
Content source: Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion

**Appendix E**

Data Sources:

1. Department of Mental Health
2. Department of Public Safety
3. Department of Education
4. Department of Human Services
5. Department of Health
6. State Tax Commission
7. Attorney General's Office
8. U.S. Census Bureau
9. Youth Risk Behavioral Surveillance System (YRBSS), State and National
10. Behavioral Risk Factor Surveillance System (BRFSS), State and National
11. National Survey on Drug Use and Health (NSDUH)
12. Smart Track ™
13. Monitoring the Future (MTF)

## Appendix F

Data Gaps/Problems Encountered

- In Mississippi there is currently no central repository for hospital discharge information. We are therefore unable to include hospital data for any illness or injury related to alcohol. Such data will, however, be available after November 2010, according to Mr. J. Surkin, Mississippi Department of Health.

- Number/rate of new cancer cases – not yet addressed in this report. We will continue to try and get this information in the future to complete our assessment of the state.

- Workplace data concerning rules and regulations regarding alcohol do not exist in Mississippi. This would be a new avenue to explore on a community level.

## Appendix G: Raw Data

| People in traffic crashes by county, casualty and age category K=Fatal, I=Injury, O=Property damage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | I | | K | | O | | | | |
| 2008 Alcohol related | | | | | | | | | |
| County | adult | < 21 | adult | < 21 | adult | < 21 | Total | Total < 21 | Total Adults |
| Adams | 8 | 4 | 2 | | 13 | 5 | 32 | 9 | 23 |
| Alcorn | 40 | 16 | | | 24 | 6 | 86 | 22 | 64 |
| Amite | 4 | | 1 | | 2 | 1 | 8 | 1 | 7 |
| Attala | 10 | 18 | | | 9 | 2 | 39 | 20 | 19 |
| Benton | | | 3 | | 2 | | 5 | 0 | 5 |
| Bolivar | 15 | 1 | 1 | 3 | 12 | 5 | 37 | 9 | 28 |
| Calhoun | 6 | 3 | 3 | | 2 | | 14 | 3 | 11 |
| Carroll | 2 | | | | 12 | 3 | 17 | 3 | 14 |
| Chickasaw | 4 | | 1 | | | | 5 | 0 | 5 |
| Choctaw | 1 | | | | 4 | | 5 | 0 | 5 |
| Claiborne | 4 | 1 | | | 3 | 1 | 9 | 2 | 7 |
| Clarke | | | | | 2 | | 2 | 0 | 2 |
| Clay | 13 | 3 | 2 | 2 | 14 | 2 | 36 | 7 | 29 |
| Coahoma | 15 | 2 | | | 14 | 3 | 34 | 5 | 29 |
| Copiah | 21 | 8 | | | 17 | 4 | 50 | 12 | 38 |
| Covington | 6 | 3 | 4 | | 6 | 1 | 20 | 4 | 16 |
| Desoto | 70 | 14 | | | 132 | 28 | 244 | 42 | 202 |
| Forrest | 65 | 17 | 3 | | 96 | 23 | 204 | 40 | 164 |
| Franklin | 1 | 2 | | | 3 | | 6 | 2 | 4 |
| George | 18 | 5 | | | 13 | 5 | 41 | 10 | 31 |
| Greene | | 1 | | | 3 | | 4 | 1 | 3 |
| Grenada | 19 | 6 | | | 16 | 1 | 42 | 7 | 35 |
| Hancock | 50 | 9 | 1 | | 42 | 6 | 108 | 15 | 93 |
| Harrison | 191 | 42 | 6 | | 204 | 29 | 472 | 71 | 401 |
| Hinds | 94 | 25 | | | 103 | 11 | 233 | 36 | 197 |
| Holmes | 9 | | 3 | | 3 | | 15 | 0 | 15 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Humphreys | 6 | 3 | | | 6 | 1 | 16 | 4 | 12 |
| Issaquena | 1 | | | | | | 1 | 0 | 1 |
| Itawamba | 13 | 3 | 1 | 1 | 5 | 4 | 27 | 8 | 19 |
| Jackson | 151 | 40 | 3 | 2 | 134 | 31 | 361 | 73 | 288 |
| Jasper | 4 | 1 | | | 7 | | 12 | 1 | 11 |
| Jefferson | | | | | 1 | | 1 | 0 | 1 |
| Jefferson Davis County | 3 | | | | 2 | | 5 | 0 | 5 |
| Jones | 47 | 12 | 2 | | 44 | 7 | 112 | 19 | 93 |
| Kemper | | | 3 | 1 | 2 | | 6 | 1 | 5 |
| Lafayette | 35 | 19 | | | 41 | 28 | 123 | 47 | 76 |
| Lamar | 15 | 4 | | | 23 | 6 | 48 | 10 | 38 |
| Lauderdale | 49 | 21 | 1 | | 63 | 19 | 153 | 40 | 113 |
| Lawrence | 4 | 1 | 2 | | 5 | 1 | 13 | 2 | 11 |
| Leake | 9 | 7 | 2 | | 16 | | 34 | 7 | 27 |
| Lee | 42 | 21 | 5 | | 36 | 7 | 111 | 28 | 83 |
| Leflore | 13 | 6 | | | 22 | 5 | 46 | 11 | 35 |
| Lincoln | 19 | 6 | 1 | | 23 | 2 | 51 | 8 | 43 |
| Lowndes | 44 | 5 | 1 | | 47 | 8 | 105 | 13 | 92 |
| Madison | 37 | 2 | | | 61 | 6 | 106 | 8 | 98 |
| Marion | 21 | 2 | | | 5 | 2 | 30 | 4 | 26 |
| Marshall | 23 | 4 | | | 30 | 4 | 61 | 8 | 53 |
| Monroe | 16 | 1 | 1 | 1 | 24 | 7 | 50 | 9 | 41 |
| Montgomery | 4 | 3 | | | 3 | 1 | 11 | 4 | 7 |
| Neshoba | 15 | 2 | 3 | | 29 | 4 | 53 | 6 | 47 |
| Newton | 9 | 1 | | | 2 | 5 | 17 | 6 | 11 |
| Noxubee | 1 | | 1 | | 2 | | 4 | 0 | 4 |
| Oktibbeha | 21 | 9 | | 4 | 24 | 4 | 62 | 17 | 45 |
| Panola | 13 | 7 | 3 | | 21 | 3 | 47 | 10 | 37 |
| Pearl | 20 | 3 | 2 | | 49 | 7 | 81 | 10 | 71 |
| Perry | 5 | 1 | | | 2 | | 8 | 1 | 7 |
| Pike | 38 | 7 | 1 | 1 | 42 | 6 | 95 | 14 | 81 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pontotoc | 6 | 2 | | | 15 | 3 | 26 | 5 | 21 |
| Prentiss | 4 | 1 | | | 10 | 5 | 20 | 6 | 14 |
| Quitman | 1 | | | | 2 | | 3 | 0 | 3 |
| Rankin | 37 | 20 | 4 | | 82 | 12 | 155 | 32 | 123 |
| Scott | 6 | 1 | 2 | | 17 | 1 | 27 | 2 | 25 |
| Sharkey | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Simpson | 13 | 1 | 1 | 1 | 10 | 1 | 27 | 3 | 24 |
| Smith | 2 | | 2 | | 10 | 6 | 20 | 6 | 14 |
| Stone | 19 | 9 | 1 | | 8 | 2 | 39 | 11 | 28 |
| Sunflower | 12 | | 1 | | 8 | 6 | 27 | 6 | 21 |
| Tallahatchie | 1 | | | | 9 | 1 | 11 | 1 | 10 |
| Tate | 8 | 5 | 1 | | 18 | 4 | 36 | 9 | 27 |
| Tippah | 2 | | 1 | | 6 | 1 | 10 | 1 | 9 |
| Tishomingo | 7 | 2 | | | 2 | 1 | 12 | 3 | 9 |
| Tunica | 28 | 2 | 3 | | 19 | 6 | 58 | 8 | 50 |
| Union | 15 | 3 | 1 | | 12 | 6 | 37 | 9 | 28 |
| Walthall | 5 | | | | 7 | 1 | 13 | 1 | 12 |
| Warren | 38 | 10 | | | 45 | 5 | 98 | 15 | 83 |
| Washington | 28 | 9 | 4 | 4 | 22 | 3 | 70 | 16 | 54 |
| Wayne | 7 | 1 | | | 1 | | 9 | 1 | 8 |
| Webster | 1 | | | | 4 | | 5 | 0 | 5 |
| Wilkinson | 3 | | | | | | 3 | 0 | 3 |
| Winston | 1 | 12 | | | 7 | | 20 | 12 | 8 |
| Yalobusha | 18 | 5 | | | 5 | | 28 | 5 | 23 |
| Yazoo | 15 | 4 | | | 9 | 2 | 30 | 6 | 24 |
| Invalid Code | 2 | | 2 | | 7 | 6 | 17 | 6 | 11 |

Source: MS Department of Public Safety

| Alcohol related Crashes | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FIPS code | April 1, 2000 Estimates | 2006 | | | | 2007 | | | | 2008 | | | |
| County Name | | Census Population | Adults | Under 21 | Total | Rate/100000 population | Adults | Under 21 | Total | Rate/100000 population | Adults | Under 21 | Total | Rate/100000 population |
| Adams | 1 | 34,340 | 22 | 11 | 33 | 96.10 | 37 | 9 | 46 | 133.95 | 23 | 9 | 32 | 93.19 |
| Alcorn | 3 | 34,558 | 38 | 17 | 55 | 159.15 | 49 | 6 | 55 | 159.15 | 64 | 22 | 86 | 248.86 |
| Amite | 5 | 13,599 | 9 | 6 | 15 | 110.30 | 10 | 2 | 12 | 88.24 | 7 | 1 | 8 | 58.83 |
| Attala | 7 | 19,661 | 25 | 7 | 32 | 162.76 | 23 | 7 | 30 | 152.59 | 19 | 20 | 39 | 198.36 |
| Benton | 9 | 8,026 | 7 | 2 | 9 | 112.14 | 4 | 0 | 4 | 49.84 | 5 | 0 | 5 | 62.30 |
| Bolivar | 11 | 40,633 | 44 | 7 | 51 | 125.51 | 37 | 6 | 43 | 105.83 | 28 | 9 | 37 | 91.06 |
| Calhoun | 13 | 15,069 | 12 | 5 | 17 | 112.81 | 9 | 4 | 13 | 86.27 | 11 | 3 | 14 | 92.91 |
| Carroll | 15 | 10,769 | 14 | 3 | 17 | 157.86 | 6 | 1 | 7 | 65.00 | 14 | 3 | 17 | 157.86 |
| Chickasaw | 17 | 19,440 | 9 | 0 | 9 | 46.30 | 23 | 0 | 23 | 118.31 | 5 | 0 | 5 | 25.72 |
| Choctaw | 19 | 9,758 | 14 | 0 | 14 | 143.47 | 2 | 1 | 3 | 30.74 | 5 | 0 | 5 | 51.24 |
| Claiborne | 21 | 11,831 | 9 | 1 | 10 | 84.52 | 9 | 2 | 11 | 92.98 | 7 | 2 | 9 | 76.07 |
| Clarke | 23 | 17,954 | 9 | 4 | 13 | 72.41 | 9 | 2 | 11 | 61.27 | 2 | 0 | 2 | 11.14 |
| Clay | 25 | 21,979 | 15 | 3 | 18 | 81.90 | 16 | 4 | 20 | 91.00 | 29 | 7 | 36 | 163.79 |
| Coahoma | 27 | 30,622 | 25 | 6 | 31 | 101.23 | 17 | 6 | 23 | 75.11 | 29 | 5 | 34 | 111.03 |
| Copiah | 29 | 28,757 | 32 | 6 | 38 | 132.14 | 35 | 6 | 41 | 142.57 | 38 | 12 | 50 | 173.87 |
| Covington | 31 | 19,407 | 20 | 5 | 25 | 128.82 | 27 | 8 | 35 | 180.35 | 16 | 4 | 20 | 103.06 |
| Desoto | 33 | 107,199 | 207 | 69 | 276 | 257.47 | 217 | 68 | 285 | 265.86 | 202 | 42 | 244 | 227.61 |
| Forrest | 35 | 72,606 | 144 | 40 | 184 | 253.42 | 163 | 39 | 202 | 278.21 | 164 | 40 | 204 | 280.97 |
| Franklin | 37 | 8,448 | 11 | 1 | 12 | 142.05 | 6 | 3 | 9 | 106.53 | 4 | 2 | 6 | 71.02 |
| George | 39 | 19,144 | 12 | 5 | 17 | 88.80 | 26 | 9 | 35 | 182.82 | 31 | 10 | 41 | 214.17 |
| Greene | 41 | 13,299 | 5 | 1 | 6 | 45.12 | 4 | 0 | 4 | 30.08 | 3 | 1 | 4 | 30.08 |
| Grenada | 43 | 23,263 | 39 | 8 | 47 | 202.04 | 47 | 10 | 57 | 245.02 | 35 | 7 | 42 | 180.54 |
| Hancock | 45 | 42,969 | 91 | 9 | 100 | 232.73 | 100 | 15 | 115 | 267.63 | 93 | 15 | 108 | 251.34 |
| Harrison | 47 | 189,606 | 370 | 73 | 443 | 233.64 | 467 | 106 | 573 | 302.21 | 401 | 71 | 472 | 248.94 |
| Hinds | 49 | 250,802 | 193 | 41 | 234 | 93.30 | 216 | 44 | 260 | 103.67 | 197 | 36 | 233 | 92.90 |
| Holmes | 51 | 21,609 | 7 | 1 | 8 | 37.02 | 17 | 4 | 21 | 97.18 | 15 | 0 | 15 | 69.42 |
| Humphreys | 53 | 11,206 | 29 | 11 | 40 | 356.95 | 12 | 0 | 12 | 107.09 | 12 | 4 | 16 | 142.78 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Issaquena | 55 | 2,274 | 0 | 0 | 0 | 0.00 | 1 | 0 | 1 | 43.98 | 1 | 0 | 1 | 43.98 |
| Itawamba | 57 | 22,770 | 24 | 7 | 31 | 136.14 | 26 | 9 | 35 | 153.71 | 19 | 8 | 27 | 118.58 |
| Jackson | 59 | 131,420 | 244 | 46 | 290 | 220.67 | 273 | 57 | 330 | 251.10 | 288 | 73 | 361 | 274.69 |
| Jasper | 61 | 18,148 | 19 | 3 | 22 | 121.23 | 16 | 4 | 20 | 110.20 | 11 | 1 | 12 | 66.12 |
| Jefferson | 63 | 9,740 | 4 | 0 | 4 | 41.07 | 12 | 3 | 15 | 154.00 | 1 | 0 | 1 | 10.27 |
| Jefferson Davis County | 65 | 13,962 | 0 | 0 | 0 | 0.00 | 4 | 2 | 6 | 42.97 | 5 | 0 | 5 | 35.81 |
| Jones | 67 | 64,961 | 107 | 24 | 131 | 201.66 | 97 | 23 | 120 | 184.73 | 93 | 19 | 112 | 172.41 |
| Kemper | 69 | 10,453 | 2 | 0 | 2 | 19.13 | 5 | 1 | 6 | 57.40 | 5 | 1 | 6 | 57.40 |
| Lafayette | 71 | 38,738 | 61 | 20 | 81 | 209.10 | 83 | 33 | 116 | 299.45 | 76 | 47 | 123 | 317.52 |
| Lamar | 73 | 39,068 | 26 | 9 | 35 | 89.59 | 36 | 4 | 40 | 102.39 | 38 | 10 | 48 | 122.86 |
| Lauderdale | 75 | 78,161 | 110 | 34 | 144 | 184.24 | 98 | 29 | 127 | 162.49 | 113 | 40 | 153 | 195.75 |
| Lawrence | 77 | 13,258 | 6 | 0 | 6 | 45.26 | 8 | 1 | 9 | 67.88 | 11 | 2 | 13 | 98.05 |
| Leake | 79 | 20,944 | 28 | 10 | 38 | 181.44 | 15 | 0 | 15 | 71.62 | 27 | 7 | 34 | 162.34 |
| Lee | 81 | 75,755 | 76 | 16 | 92 | 121.44 | 80 | 25 | 105 | 138.60 | 83 | 28 | 111 | 146.52 |
| Leflore | 83 | 37,947 | 57 | 17 | 74 | 195.01 | 62 | 17 | 79 | 208.19 | 35 | 11 | 46 | 121.22 |
| Lincoln | 85 | 33,166 | 37 | 14 | 51 | 153.77 | 41 | 9 | 50 | 150.76 | 43 | 8 | 51 | 153.77 |
| Lowndes | 87 | 61,586 | 100 | 11 | 111 | 180.24 | 109 | 24 | 133 | 215.96 | 92 | 13 | 105 | 170.49 |
| Madison | 89 | 74,674 | 70 | 32 | 102 | 136.59 | 87 | 25 | 112 | 149.99 | 98 | 8 | 106 | 141.95 |
| Marion | 91 | 25,595 | 27 | 1 | 28 | 109.40 | 23 | 2 | 25 | 97.68 | 26 | 4 | 30 | 117.21 |
| Marshall | 93 | 34,993 | 61 | 8 | 69 | 197.18 | 55 | 5 | 60 | 171.46 | 53 | 8 | 61 | 174.32 |
| Monroe | 95 | 38,014 | 24 | 6 | 30 | 78.92 | 41 | 14 | 55 | 144.68 | 41 | 9 | 50 | 131.53 |
| Montgomery | 97 | 12,189 | 12 | 2 | 14 | 114.86 | 8 | 0 | 8 | 65.63 | 7 | 4 | 11 | 90.25 |
| Neshoba | 99 | 28,680 | 44 | 11 | 55 | 191.77 | 30 | 5 | 35 | 122.04 | 47 | 6 | 53 | 184.80 |
| Newton | 101 | 21,838 | 14 | 2 | 16 | 73.27 | 31 | 5 | 36 | 164.85 | 11 | 6 | 17 | 77.85 |
| Noxubee | 103 | 12,548 | 13 | 6 | 19 | 151.42 | 8 | 2 | 10 | 79.69 | 4 | 0 | 4 | 31.88 |
| Oktibbeha | 105 | 42,899 | 32 | 28 | 60 | 139.86 | 39 | 14 | 53 | 123.55 | 45 | 17 | 62 | 144.53 |
| Panola | 107 | 34,280 | 56 | 38 | 94 | 274.21 | 69 | 7 | 76 | 221.70 | 37 | 10 | 47 | 137.11 |
| Pearl | 109 | 48,619 | 67 | 16 | 83 | 170.72 | 68 | 12 | 80 | 164.54 | 71 | 10 | 81 | 166.60 |
| Perry | 111 | 12,138 | 11 | 5 | 16 | 131.82 | 7 | 4 | 11 | 90.62 | 7 | 1 | 8 | 65.91 |
| Pike | 113 | 38,940 | 68 | 9 | 77 | 197.74 | 61 | 14 | 75 | 192.60 | 81 | 14 | 95 | 243.97 |
| Pontotoc | 115 | 26,726 | 33 | 4 | 37 | 138.44 | 18 | 11 | 29 | 108.51 | 21 | 5 | 26 | 97.28 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prentiss | 117 | 25,556 | 15 | 3 | 18 | 70.43 | 15 | 3 | 18 | 70.43 | 14 | 6 | 20 | 78.26 |
| Quitman | 119 | 10,115 | 13 | 1 | 14 | 138.41 | 6 | 1 | 7 | 69.20 | 3 | 0 | 3 | 29.66 |
| Rankin | 121 | 115,328 | 127 | 29 | 156 | 135.27 | 140 | 32 | 172 | 149.14 | 123 | 32 | 155 | 134.40 |
| Scott | 123 | 28,423 | 24 | 10 | 34 | 119.62 | 38 | 9 | 47 | 165.36 | 25 | 2 | 27 | 94.99 |
| Sharkey | 125 | 6,580 | 2 | 1 | 3 | 45.59 | 1 | 1 | 2 | 30.40 | 0 | 0 | 0 | 0.00 |
| Simpson | 127 | 27,639 | 18 | 6 | 24 | 86.83 | 20 | 6 | 26 | 94.07 | 24 | 3 | 27 | 97.69 |
| Smith | 129 | 16,183 | 4 | 4 | 8 | 49.43 | 7 | 5 | 12 | 74.15 | 14 | 6 | 20 | 123.59 |
| Stone | 131 | 13,622 | 10 | 2 | 12 | 88.09 | 18 | 6 | 24 | 176.19 | 28 | 11 | 39 | 286.30 |
| Sunflower | 133 | 34,369 | 21 | 7 | 28 | 81.47 | 19 | 6 | 25 | 72.74 | 21 | 6 | 27 | 78.56 |
| Tallahatchie | 135 | 14,903 | 10 | 0 | 10 | 67.10 | 21 | 2 | 23 | 154.33 | 10 | 1 | 11 | 73.81 |
| Tate | 137 | 25,372 | 23 | 5 | 28 | 110.36 | 28 | 9 | 37 | 145.83 | 27 | 9 | 36 | 141.89 |
| Tippah | 139 | 20,826 | 12 | 6 | 18 | 86.43 | 24 | 5 | 29 | 139.25 | 9 | 1 | 10 | 48.02 |
| Tishomingo | 141 | 19,163 | 27 | 4 | 31 | 161.77 | 18 | 14 | 32 | 166.99 | 9 | 3 | 12 | 62.62 |
| Tunica | 143 | 9,227 | 59 | 4 | 63 | 682.78 | 46 | 4 | 50 | 541.89 | 50 | 8 | 58 | 628.59 |
| Union | 145 | 25,362 | 24 | 2 | 26 | 102.52 | 27 | 14 | 41 | 161.66 | 28 | 9 | 37 | 145.89 |
| Walthall | 147 | 15,156 | 6 | 1 | 7 | 46.19 | 11 | 2 | 13 | 85.77 | 12 | 1 | 13 | 85.77 |
| Warren | 149 | 49,644 | 41 | 11 | 52 | 104.75 | 44 | 13 | 57 | 114.82 | 83 | 15 | 98 | 197.41 |
| Washington | 151 | 62,977 | 40 | 9 | 49 | 77.81 | 35 | 7 | 42 | 66.69 | 54 | 16 | 70 | 111.15 |
| Wayne | 153 | 21,217 | 6 | 0 | 6 | 28.28 | 17 | 1 | 18 | 84.84 | 8 | 1 | 9 | 42.42 |
| Webster | 155 | 10,294 | 4 | 4 | 8 | 77.72 | 3 | 1 | 4 | 38.86 | 5 | 0 | 5 | 48.57 |
| Wilkinson | 157 | 10,312 | 6 | 5 | 11 | 106.67 | 7 | 7 | 14 | 135.76 | 3 | 0 | 3 | 29.09 |
| Winston | 159 | 20,160 | 6 | 2 | 8 | 39.68 | 9 | 0 | 9 | 44.64 | 8 | 12 | 20 | 99.21 |
| Yalobusha | 161 | 13,051 | 8 | 4 | 12 | 91.95 | 15 | 4 | 19 | 145.58 | 23 | 5 | 28 | 214.54 |
| Yazoo | 163 | 28,149 | 22 | 3 | 25 | 88.81 | 18 | 4 | 22 | 78.16 | 24 | 6 | 30 | 106.58 |
| Invalid Code | | | 7 | 0 | 7 | | 10 | 1 | 11 | | 11 | 6 | 17 | |
| Mississippi | | 2,844,666 | 3,380 | 844 | 4,224 | 148.49 | 3,696 | 880 | 4,576 | 160.86 | 3,565 | 854 | 4,419 | 155.34 |

Source: MS Department of Public Safety

| Mississippi Licensed Drivers | | | | | | |
|---|---|---|---|---|---|---|
| | DUI Arrests by County, Year and Age Category | | | | | |
| | 2008 | | 2009 | | | |
| County | adult | Under21 | adult | Under21 | 2008 Total | 2009 Total |
| Adams | 117 | 10 | 225 | 19 | 127 | 244 |
| Alcorn | 315 | 23 | 215 | 20 | 338 | 235 |
| Amite | 83 | 11 | 117 | 7 | 94 | 124 |
| Attala | 148 | 24 | 125 | 16 | 172 | 141 |
| Benton | 57 | 2 | 58 | 0 | 59 | 58 |
| Bolivar | 143 | 20 | 168 | 20 | 163 | 188 |
| Calhoun | 159 | 31 | 108 | 10 | 190 | 118 |
| Carroll | 88 | 7 | 164 | 5 | 95 | 169 |
| Chickasaw | 188 | 13 | 160 | 14 | 201 | 174 |
| Choctaw | 25 | 5 | 23 | 0 | 30 | 23 |
| Claiborne | 26 | 1 | 28 | 6 | 27 | 34 |
| Clarke | 81 | 9 | 69 | 4 | 90 | 73 |
| Clay | 257 | 7 | 106 | 10 | 264 | 116 |
| Coahoma | 57 | 3 | 77 | 3 | 60 | 80 |
| Copiah | 130 | 13 | 114 | 8 | 143 | 122 |
| Covington | 315 | 35 | 224 | 15 | 350 | 239 |
| Desoto | 752 | 61 | 782 | 62 | 813 | 844 |
| Forrest | 808 | 93 | 771 | 100 | 901 | 871 |
| Franklin | 64 | 3 | 96 | 12 | 67 | 108 |
| George | 206 | 32 | 90 | 9 | 238 | 99 |
| Greene | 58 | 7 | 71 | 8 | 65 | 79 |
| Grenada | 338 | 23 | 217 | 16 | 361 | 233 |
| Hancock | 498 | 42 | 445 | 26 | 540 | 471 |
| Harrison | 1853 | 147 | 1711 | 142 | 2000 | 1853 |
| Hinds | 462 | 32 | 509 | 44 | 494 | 553 |
| Holmes | 120 | 11 | 128 | 17 | 131 | 145 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Humphreys | 70 | 1 | 25 | 2 | 71 | 27 |
| Issaquena | 7 | 0 | 9 | 1 | 7 | 10 |
| Itawamba | 117 | 28 | 125 | 26 | 145 | 151 |
| Jackson | 1113 | 97 | 801 | 54 | 1210 | 855 |
| Jasper | 173 | 13 | 87 | 7 | 186 | 94 |
| Jefferson | 85 | 9 | 152 | 20 | 94 | 172 |
| Jefferson Davis County | 98 | 7 | 53 | 6 | 105 | 59 |
| Jones | 682 | 71 | 544 | 56 | 753 | 600 |
| Kemper | 64 | 2 | 44 | 4 | 66 | 48 |
| Lafayette | 684 | 180 | 500 | 102 | 864 | 602 |
| Lamar | 225 | 29 | 170 | 32 | 254 | 202 |
| Lauderdale | 724 | 79 | 642 | 75 | 803 | 717 |
| Lawrence | 73 | 10 | 75 | 4 | 83 | 79 |
| Leake | 242 | 24 | 223 | 25 | 266 | 248 |
| Lee | 841 | 69 | 692 | 51 | 910 | 743 |
| Leflore | 323 | 21 | 304 | 11 | 344 | 315 |
| Lincoln | 142 | 18 | 203 | 16 | 160 | 219 |
| Lowndes | 397 | 42 | 400 | 46 | 439 | 446 |
| Madison | 1029 | 87 | 695 | 81 | 1116 | 776 |
| Marion | 225 | 17 | 287 | 15 | 242 | 302 |
| Marshall | 243 | 24 | 178 | 3 | 267 | 181 |
| Monroe | 406 | 39 | 329 | 34 | 445 | 363 |
| Montgomery | 80 | 7 | 92 | 9 | 87 | 101 |
| Neshoba | 352 | 22 | 415 | 32 | 374 | 447 |
| Newton | 177 | 28 | 169 | 17 | 205 | 186 |
| Noxubee | 42 | 5 | 21 | 3 | 47 | 24 |
| Oktibbeha | 472 | 98 | 461 | 128 | 570 | 589 |
| Panola | 337 | 31 | 304 | 25 | 368 | 329 |
| Pearl | 409 | 39 | 251 | 34 | 448 | 285 |
| Perry | 115 | 12 | 118 | 13 | 127 | 131 |
| Pike | 368 | 21 | 303 | 29 | 389 | 332 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Pontotoc | 361 | 49 | 288 | 48 | 410 | 336 |
| Prentiss | 183 | 30 | 140 | 10 | 213 | 150 |
| Quitman | 36 | 4 | 58 | 0 | 40 | 58 |
| Rankin | 1004 | 93 | 971 | 80 | 1097 | 1051 |
| Scott | 213 | 12 | 169 | 6 | 225 | 175 |
| Sharkey | 19 | 0 | 20 | 0 | 19 | 20 |
| Simpson | 268 | 31 | 375 | 41 | 299 | 416 |
| Smith | 98 | 7 | 55 | 9 | 105 | 64 |
| Stone | 253 | 25 | 227 | 25 | 278 | 252 |
| Sunflower | 197 | 6 | 199 | 9 | 203 | 208 |
| Tallahatchie | 64 | 5 | 37 | 3 | 69 | 40 |
| Tate | 147 | 20 | 184 | 20 | 167 | 204 |
| Tippah | 113 | 11 | 100 | 12 | 124 | 112 |
| Tishomingo | 101 | 18 | 86 | 15 | 119 | 101 |
| Tunica | 400 | 19 | 357 | 7 | 419 | 364 |
| Union | 319 | 35 | 287 | 39 | 354 | 326 |
| Walthall | 74 | 10 | 73 | 5 | 84 | 78 |
| Warren | 236 | 17 | 281 | 12 | 253 | 293 |
| Washington | 176 | 11 | 166 | 10 | 187 | 176 |
| Wayne | 123 | 2 | 230 | 12 | 125 | 242 |
| Webster | 49 | 3 | 58 | 5 | 52 | 63 |
| Wilkinson | 19 | 3 | 28 | 4 | 22 | 32 |
| Winston | 133 | 7 | 141 | 5 | 140 | 146 |
| Yalobusha | 95 | 12 | 107 | 13 | 107 | 120 |
| Yazoo | 130 | 14 | 189 | 14 | 144 | 203 |
| Invalid Code | 78 | 9 | 78 | 14 | 87 | 92 |
| Mississippi | 22552 | 2248 | 20377 | 1972 | 24800 | 22349 |

Source: MS Department of Public Safety

TABLE I
2008 ESTIMATED POPULATION AND PERCENT CHANGE FROM 2000 CENSUS POPULATION
MISSISSIPPI

| COUNTY | POPULATION | | | PERCENT CHANGE SINCE 2000 | | |
|---|---|---|---|---|---|---|
| | TOTAL | WHITE | NON-WHITE | TOTAL | WHITE | NON-WHITE |
| STATE | 2,938,618 | 1,780,749 | 1,157,869 | 3.3 | 2.0 | 5.4 |
| ADAMS | 31,307 | 13,337 | 17,970 | -8.8 | -15.6 | -3.0 |
| ALCORN | 35,673 | 31,193 | 4,480 | 3.2 | 3.3 | 2.6 |
| AMITE | 13,248 | 7,303 | 5,945 | -2.6 | -4.8 | 0.3 |
| ATTALA | 19,671 | 11,304 | 8,367 | * | -1.5 | 2.2 |
| BENTON | 8,116 | 5,243 | 2,873 | 1.1 | 5.8 | -6.5 |
| BOLIVAR | 37,195 | 12,267 | 24,928 | -8.5 | -9.2 | -8.1 |
| CALHOUN | 14,508 | 10,182 | 4,326 | -3.7 | -2.7 | -6.1 |
| CARROLL | 10,367 | 6,695 | 3,672 | -3.7 | -0.8 | -8.7 |
| CHICKASAW | 18,826 | 10,746 | 8,080 | -3.2 | -2.8 | -3.6 |
| CHOCTAW | 9,090 | 6,139 | 2,951 | -6.9 | -7.5 | -5.4 |
| CLAIBORNE | 10,848 | 1,649 | 9,199 | -8.3 | -8.2 | -8.3 |
| CLARKE | 17,378 | 11,212 | 6,166 | -3.2 | -3.2 | -3.3 |
| CLAY | 20,860 | 8,901 | 11,959 | -5.1 | -5.4 | -4.9 |
| COAHOMA | 27,272 | 6,581 | 20,691 | -10.9 | -26.6 | -4.5 |
| COPIAH | 29,331 | 13,990 | 15,341 | 2.0 | 1.8 | 2.2 |
| COVINGTON | 20,526 | 12,803 | 7,723 | 5.8 | 4.0 | 8.8 |
| DESOTO | 154,748 | 117,676 | 37,072 | 44.4 | 28.0 | 143.1 |
| FORREST | 79,425 | 49,581 | 29,844 | 9.4 | 6.1 | 15.3 |
| FRANKLIN | 8,316 | 5,147 | 3,169 | -1.6 | -3.0 | 0.8 |
| GEORGE | 22,406 | 20,001 | 2,405 | 17.0 | 16.9 | 18.2 |
| GREENE | 13,818 | 9,790 | 4,028 | 3.9 | 1.1 | 11.3 |
| GRENADA | 22,995 | 13,093 | 9,902 | -1.2 | -2.8 | 1.2 |
| HANCOCK | 40,140 | 36,162 | 3,978 | -6.6 | -6.7 | -5.6 |
| HARRISON | 178,460 | 126,933 | 51,527 | -5.9 | -8.5 | 1.2 |
| HINDS | 247,650 | 78,669 | 168,981 | -1.3 | -15.9 | 7.5 |
| HOLMES | 20,595 | 3,763 | 16,832 | -4.7 | -14.9 | -2.1 |
| HUMPHREYS | 10,089 | 2,658 | 7,431 | -10.0 | -12.7 | -8.9 |
| ISSAQUENA | 1,658 | 672 | 986 | -27.1 | -18.6 | -31.9 |
| ITAWAMBA | 23,175 | 21,350 | 1,825 | 1.8 | 1.4 | 6.4 |
| JACKSON | 130,694 | 96,702 | 33,992 | -0.6 | -2.4 | 4.9 |
| JASPER | 18,253 | 8,631 | 9,622 | 0.6 | 2.4 | -1.0 |
| JEFFERSON | 8,872 | 1,189 | 7,683 | -8.9 | -6.5 | -9.3 |
| JEFF DAVIS | 12,653 | 5,209 | 7,444 | -9.4 | -10.4 | -8.6 |
| JONES | 67,198 | 47,790 | 19,408 | 3.5 | 3.5 | 3.4 |
| KEMPER | 9,967 | 3,728 | 6,239 | -4.7 | -8.6 | -2.1 |
| LAFAYETTE | 43,922 | 32,001 | 11,921 | 13.4 | 15.0 | 9.3 |
| LAMAR | 49,121 | 40,323 | 8,798 | 25.7 | 20.9 | 53.6 |
| LAUDERDALE | 78,180 | 44,504 | 33,676 | * | -5.3 | 6.1 |
| LAWRENCE | 13,370 | 8,906 | 4,464 | 0.8 | 0.4 | 1.9 |
| LEAKE | 22,844 | 12,604 | 10,240 | 9.1 | 7.2 | 11.5 |
| LEE | 81,139 | 58,278 | 22,861 | 7.1 | 4.4 | 14.6 |
| LEFLORE | 35,185 | 9,670 | 25,515 | -7.3 | -15.1 | -4.0 |

TABLE I - PAGE 2
2008 ESTIMATED POPULATION - MISSISSIPPI

| COUNTY | POPULATION | | | PERCENT CHANGE SINCE 2000 | | |
|---|---|---|---|---|---|---|
| | TOTAL | WHITE | NON-WHITE | TOTAL | WHITE | NON-WHITE |
| LINCOLN | 34,931 | 23,875 | 11,056 | 5.3 | 3.6 | 8.9 |
| LOWNDES | 59,264 | 32,580 | 26,704 | -3.7 | -6.3 | -0.4 |
| MADISON | 91,369 | 55,062 | 36,307 | 22.4 | 22.3 | 22.4 |
| MARION | 25,830 | 16,965 | 8,865 | 0.9 | -1.0 | 4.8 |
| MARSHALL | 37,102 | 18,767 | 18,335 | 6.0 | 10.9 | 1.5 |
| MONROE | 37,250 | 25,483 | 11,767 | -2.0 | -2.0 | -2.1 |
| MONTGOMERY | 11,266 | 6,023 | 5,243 | -7.6 | -8.9 | -6.0 |
| NESHOBA | 30,530 | 19,256 | 11,274 | 6.4 | 2.5 | 13.9 |
| NEWTON | 22,355 | 14,455 | 7,900 | 2.4 | 1.6 | 3.4 |
| NOXUBEE | 11,828 | 3,502 | 8,326 | -5.7 | -5.4 | -5.9 |
| OKTIBBEHA | 43,944 | 26,202 | 17,742 | 2.4 | 4.1 | * |
| PANOLA | 35,660 | 18,322 | 17,338 | 4.0 | 5.9 | 2.2 |
| PEARL RIVER | 57,466 | 48,989 | 8,477 | 18.2 | 17.6 | 20.7 |
| PERRY | 12,235 | 9,327 | 2,908 | 0.8 | 0.9 | 0.5 |
| PIKE | 39,961 | 19,829 | 20,132 | 2.6 | -0.6 | 6.0 |
| PONTOTOC | 29,004 | 24,454 | 4,550 | 8.5 | 8.4 | 9.1 |
| PRENTISS | 25,707 | 21,789 | 3,918 | 0.6 | -0.7 | 8.4 |
| QUITMAN | 8,724 | 2,601 | 6,123 | -13.8 | -15.6 | -13.0 |
| RANKIN | 140,901 | 110,151 | 30,750 | 22.2 | 17.9 | 40.6 |
| SCOTT | 28,850 | 17,419 | 11,431 | 1.5 | 7.1 | -6.0 |
| SHARKEY | 5,556 | 1,642 | 3,914 | -15.6 | -15.0 | -15.8 |
| SIMPSON | 28,034 | 18,096 | 9,938 | 1.4 | 1.7 | 1.0 |
| SMITH | 15,809 | 11,905 | 3,904 | -2.3 | -3.3 | 1.0 |
| STONE | 16,025 | 12,805 | 3,220 | 17.6 | 18.4 | 14.8 |
| SUNFLOWER | 30,697 | 8,168 | 22,529 | -10.7 | -17.7 | -7.8 |
| TALLAHATCHIE | 13,027 | 4,980 | 8,047 | -12.6 | -15.7 | -10.6 |
| TATE | 27,176 | 18,361 | 8,815 | 7.1 | 6.7 | 8.0 |
| TIPPAH | 21,210 | 17,346 | 3,864 | 1.8 | 1.8 | 2.2 |
| TISHOMINGO | 18,947 | 18,057 | 890 | -1.1 | -0.7 | -8.3 |
| TUNICA | 10,448 | 2,833 | 7,615 | 13.2 | 11.5 | 13.9 |
| UNION | 27,212 | 22,676 | 4,536 | 7.3 | 7.2 | 7.9 |
| WALTHALL | 15,416 | 8,336 | 7,080 | 1.7 | 0.7 | 2.9 |
| WARREN | 48,087 | 24,518 | 23,569 | -3.1 | -10.2 | 5.4 |
| WASHINGTON | 55,079 | 16,772 | 38,307 | -12.5 | -21.6 | -7.9 |
| WAYNE | 20,755 | 12,575 | 8,180 | -2.2 | -3.3 | -0.4 |
| WEBSTER | 9,887 | 7,747 | 2,140 | -4.0 | -3.0 | -7.4 |
| WILKINSON | 10,283 | 3,111 | 7,172 | -0.3 | -3.4 | 1.1 |
| WINSTON | 19,575 | 10,540 | 9,035 | -2.9 | -5.4 | 0.2 |
| YALOBUSHA | 13,645 | 8,102 | 5,543 | 4.6 | 2.7 | 7.4 |
| YAZOO | 28,464 | 12,553 | 15,911 | 1.1 | -0.3 | 2.3 |

* LESS THAN 0.06 PERCENT CHANGE.

NOTE: POPULATION ESTIMATE WAS OBTAINED FROM THE U.S. BUREAU OF THE CENSUS.

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## Appendix H: List of SEOW Members

**MISSISSIPPI SEOW WORK GROUP MEMBERS**

| Member Affiliation | Member Name(s) |
|---|---|
| Department of Mental Health - Bureau of Alcohol and Drug Abuse (BADA) | Melody Winston |
| Department of Mental Health - BADA | Herbert Loving |
| Department of Mental Health - BADA | Tabeth Jiri |
| Department of Mental Health - BADA | Karen West |
| Department of Youth Services | Jackie Chatmon |
| National Alliance for the Mentally Ill | Larry Swearengen |
| Office of Attorney General | Perry Sewell |
| Office of Attorney General | Catherine Cliburn |
| University of Texas at San Antonio (Evaluator) | Dr. John Bartkowski |
| Department of Education | Stephanie Robinson |
| Choctaw Behavioral Health | Bettye Tategardener |
| Community | Dr. Sheila Wallace |
| Community | Hugh Barkley |
| Department of Education | John Cartwright |
| Department of Human Services | Clarence Powell |
| Department of Mental Health - BADA | Jerri Avery |
| Department of Mental Health - BADA | Chuck Oliphant |

| | |
|---|---|
| Department of Mental Health - BADA | Mark Stovall |
| Department of Mental Health - BADA | Scott Sumrall |
| Department of Public Health | Teresa Kittle |
| Department of Public Health | Vernesia Wilson |
| Department of Public Safety | Terry Warren |
| DREAM Inc | Vicki Mixon |
| DREAM Inc | Rachel Anderson |
| DREAM Inc | Caroline Newkirk |
| DREAM Inc | Gini Tucker |
| DREAM of Hattiesburg | Dr. Linda Vasquez |
| Jackson State University, School of Public Health | Dr O. Ekundayo |
| National Guard | Sergeant Major Dusty Reynolds |
| National Guard | Deborah Coleman |
| National Guard | Jerry Crain |
| Office of Highway Safety | Jackie Ledger |
| Office of Highway Safety | Kathy Ellis |
| Office of Highway Safety | Jackie Ledger |
| Office of Juvenile Justice | Bill Perrett |
| Office of Minority Health | Ernest Hargrove |
| State Alcohol and Beverage Control | Mark Hicks |

| | |
|---|---|
| University of Mississippi | Michael Macdermott |
| University of Mississippi Medical Center | Dr. M Tull |
| University of Mississippi Medical Center | Dr. A Mawson |
| University of Mississippi Medical Center | Dr. S Karre |
| University of Texas at San Antonio (Evaluator) | Dr. Xiaohe Xu |
| Volunteer | Angellic Howell |